

CHEMIST & DRUGGIST

The newsworthy for pharmacy

IT'S BONUS TIME



FOR **FENOX** AND

STREPSILS

Fenox and Strepsils – well established 'Chemist Only' lines – are available on bonus terms NOW. The offer is open for a limited period only – don't miss the chance of purchasing at the generous special terms. No limit on quantity. Order from your usual wholesaler.

Best terms - 12 for the price of 10

	Fenox Drops	Fenox Spray	Strepsils
6 dozen (assorted* if desired)	16/8 doz	20/- doz	15/10 doz
Return on investment	80%	80%	83%

This gives a profit of over 1/1d per bottle on Fenox Drops, 1/4d on Fenox Spray and over 1/1d per tin on Strepsils.

or - 12 for the price of 11

	Fenox Drops	Fenox Spray	Strepsils
3 dozen (assorted* if desired)	18/4 doz	22/- doz	17/5 doz

*Assorted orders (minumum 1 doz. of any one product)

Drug exports for July near £10m mark

Legislation and the drug industry

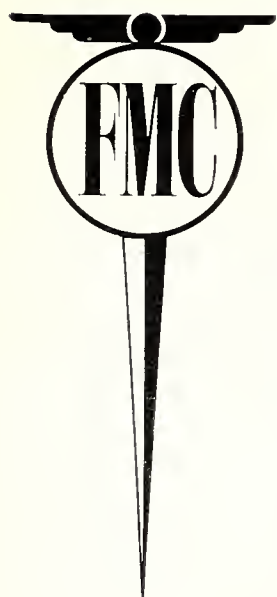
Pharmacies close –scripts fall

Bromides dearer

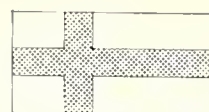
Chemist fined for DDA offences



Belfast conference



FERRO METAL & CHEMICAL CORPORATION LIMITED



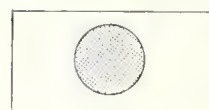
FINLAND



FRANCE



HUNGARY



JAPAN



U.S.A.



U.S.S.R.

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TAKEDA CHEMICAL INDUSTRIES LIMITED & SUBSIDIARIES, JAPAN

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CHEMIST & DRUGGIST

111th year of publication Vol. 192 No. 4673

The newswweekly for Pharmacy

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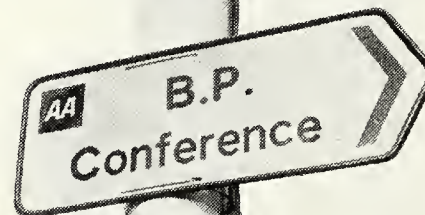
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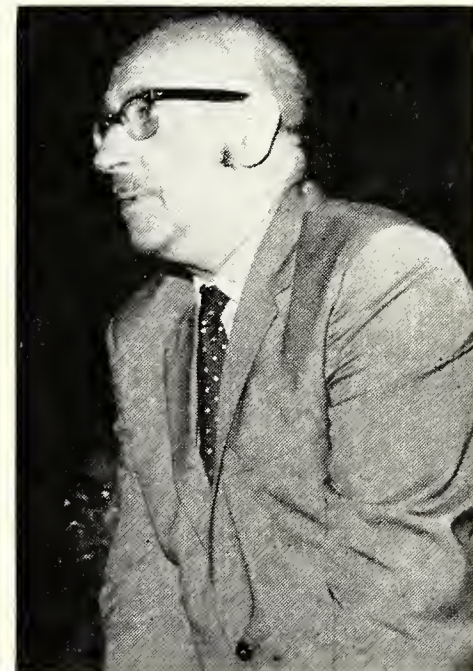
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of Circulations

Conference news begins on page 205

Prof E. J. Shellard on Mitrargyna
species and their alkaloids: page 216

The perfect

COPLASTIC Tablet bottles are now widely accepted (in major teaching hospitals, as well as in pharmacies up and down the country). They're less than one-sixth the weight of glass — save labour, time, fatigue. slipped discs. They usually bounce when they're dropped — save bottles, accidents, nasty cuts, money. They are virtually as imperme-

able as glass — so dispensers like them, customers like them, tablets like them. They're available in clear and amber polystyrene. And there's a CERTOR cabinet to make their use even neater and easier. What about a trial order? Postcard or 'phone call will bring you full details!



save money

won't break

cost less than glass

$\frac{1}{6}$ th. weight of glass

ethical shape

reduce fatigue

virtually impermeable as glass

BY THE WAY — self-adhesive labels for these tablet bottles come in their own CERTOR dispenser. So easy and pleasant to use. No need to damp them. No waste at all. There's another saving in time and money!

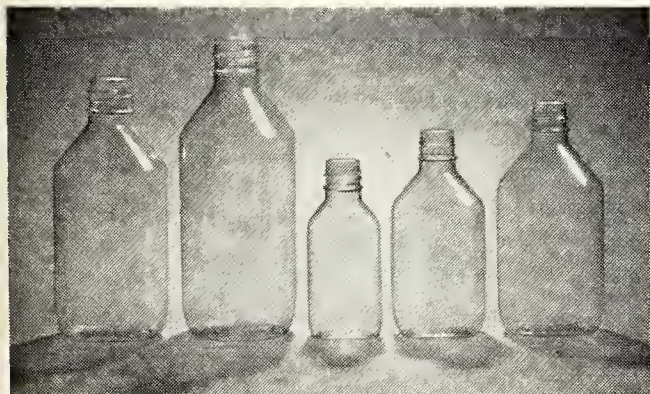


MACDONALD OF MANCHESTER

partnership!



BY THE WAY —
the cabinet contains the two closures that fit the whole
range of CERTOR PVC metric medicals. These new
bottles are the BS 1679 shape, light, non-toxic, unbreak-
able, inexpensive — and increasingly accepted!



CERTOR Tablet Bottle Cabinet is only made possible
by the invention of the silent, crack-resistant
COPLASTIC bottle. The whole dispensing process is
streamlined at last! This handsome new design is
now available in grey and blue, with Perspex panels.
The four most used sizes (16, 25, 32, and 48 ml) are
double banked, with a single bank each for the 60,
90, and 112 ml. There are four compartments for the
four standard closures that fit these
bottles. The whole cabinet is attractive,
efficient, sturdily built, very inexpensive.
See your Macdonald Representative on
his next call!



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from any processing problem & we mean any! Fencolor are geared to handle all the unusual as well as the usual jobs:

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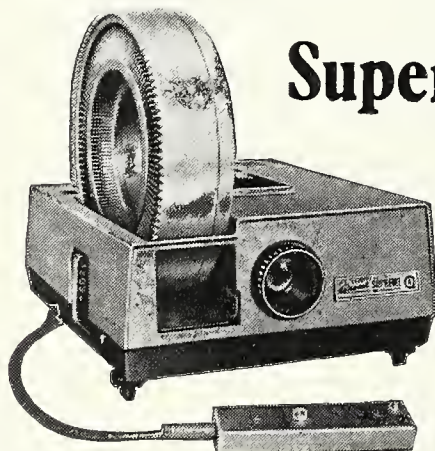
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The only
**BEVELLED
TONGUE
DEPRESSOR**
in the world

Applicators also available

ASHWOOD TIMBER & PLASTICS LTD.

Leven Rd., London, E.14. Phone: East 6461 & 6343



Superb Supremes today's sale-makers

The new range of ten superb slide projectors from GNOME (Prices from £25 11 9) — supported by powerful advertising ("The Image Makers of Today") and special consumer incentive (1 FREE Gnome Rotary Magazine during Sept.) — this is the big selling range NOW. Are your stocks sufficient for the demand?

STOCK-UP AND YOU'LL SELL SUPREMES!

GNOME
photographic

GNOME PHOTOGRAPHIC PRODUCTS LTD.

GNOME CORNER, CAERPHILLY ROAD,

CARDIFF, CF4 4XJ Telephone (OCA2) 63201/2/3

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Registered Brands: VERLOSHEER, VERLOFABRIK, VERLONET
All qualities approved under N.H.S.

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Tel.: 248227 (2 lines)

'Grams: Verlog, Nottingham

FULLY-FASHIONED BABY PANTS

Packed in eye-catching cellophane-pack or colourful display-box. Elastic or taped legs. White, Pink, blue, yellow. Small, medium, large, extra-large. Samples and price-List. QUANTITY QUOTATIONS. (Mfr'd. by)

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AYCLIFFE INDUSTRIAL ESTATE, Co. DURHAM

Tel: Aycliffe 3307

FROMENT

STABILISED PURE WHEAT GERM

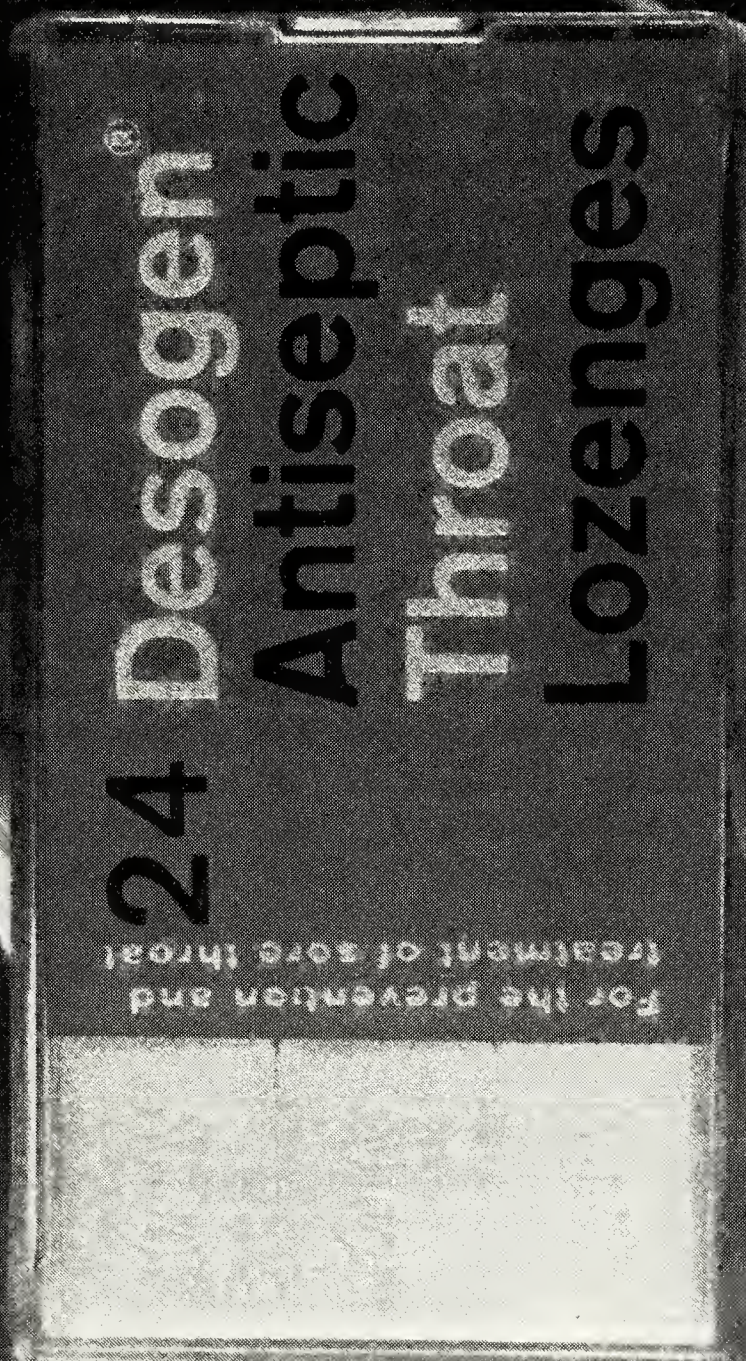
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Packed in 3 sizes—Don't be without FROMENT
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Desogen® Bonus Offer Geigy Antiseptic Throat Lozenges

Retail Price 2s 6d per box of 24 lozenges

Available immediately through your local Mr. Geigy or by returning reply card

Geigy Quality-

Worthy of your Professional Recommendation

Quantity Ordered (Units)	Bonus (Units)	Total Outlay	Profit
72	18	£6 0 0	£5 5 0
48	10	£4 0 0	£3 5 0
24	4	£2 0 0	£1 10 0

Each Desogen® lozenge contains: 2-(N-Dodecanoyl-N-methylamino) ethyldimethyl-(phenylcarbamoylmethyl)-ammonium (Dofamilium) chloride 0.5 mg

Detailed literature describing any Geigy product will be supplied on request. Geigy (U.K.) Limited, Pharmaceuticals Division, Macclesfield, Cheshire, SK10 2LY.



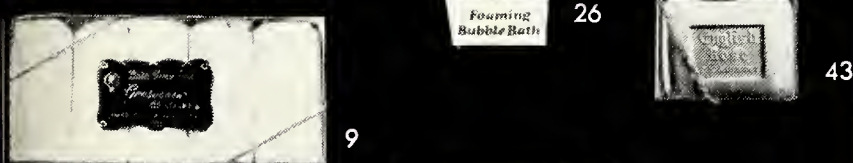
Our Symbol in the Seventies

Our new logotype **EM** should catch your eye at the start of the 1970's on a very wide range of standard drugs. Quality conforms, as it must, to the latest official standards in force : the dress is designed to suit our modernised plant on Merseyside.

We hope that our labels will please your critical eye and still be easy to read—just one advantage of Evans Medical's range of standard drugs.



Evans Medical Ltd,
Speke, Liverpool, L24 9DJ



Bathe in the luxury of

QUICK TURNOVER & INCREASED PROFITS

with

GROSVENOR OF LONDON BATH LUXURIES

seasonal best sellers!

how many women in your life?

Every woman will receive a bath luxury this Christmas — wife, mother, daughter, sister, fiancée, secretary, telephonist, post-girl, tea-lady

BE SURE THAT YOU HAVE YOUR SHARE OF THIS LUCRATIVE MARKET BY ORDERING GROSVENOR BATH LUXURIES FROM YOUR WHOLESALER — NOW!



Ask your Wholesaler for the GROSVENOR range of gift-packed bath luxuries.

or write for details of your nearest stockist to:

GROSVENOR PERFUMERY COMPANY LIMITED,
GLOUCESTER ROAD, CROYDON, CR9 2XN.

IMPORTANT



As part of the plan to establish operating Sales Divisions within the

RECKITT & COLMAN GROUP

it has been decided to transfer

- * **ZUBES**
- * **ZUBES COUGH MIXTURE**
- * **KEYBELLS GLYCERINE LEMON & IPEC**
- * **KEYBELLS GLYCERINE & HONEY**

from:-

F. W. HAMPSHIRE & CO. LTD., DERBY

to:-

ROBERTS' CROUPLINE LIMITED, BOLTON

With effect from 1st September, 1969 Roberts' Croupline Ltd., will be responsible for the marketing of these products and will be pleased to deal with enquiries at:-

ROBERTS' CROUPLINE LIMITED

BURNDEN WORKS, CROFT LANE, BOLTON, LANCs.
TEL: BOLTON 23636

**SAME PACKS
SAME PRICES
SAME DEADLY
PRODUCT
NO WONDER SALES
ARE LIVELY!**



1/6 (3¼ oz) suggested retail prices **3/9 (12 oz)**



PRODUCT

Double strength Kaykill. Unpopular with rats and mice but 'number one' with housewives. Pull your stocks up to strength ORDER KAYKILL NOW.

**RETAIL
TRADE
TERMS**

**WHOLESALE
ENQUIRIES**

1/6 size

Trade Price
11/5 doz.

Profit
6/7

3/9 size

Trade Price
29/3 doz.

Profit
15/9

TO ROBERTS' CROUPLINE LIMITED

Burnden Works, Croft Lane, Bolton Tel: 23636

FOR CHEMISTS ONLY

Extra!

100%

**display discount
on
RADIAN- β**

For an order of not less than £5 (excluding PT) you can choose any combination of 'Radiol' products and earn 10% extra display discount.

Your order brings you a range of *established* products, plus striking display material for your own point of sale promotions. Full scale winter advertising gives added impetus to sales. Radian-B will be selling for you in the Daily Express, Daily Mail, Daily Mirror, Daily Telegraph, Daily Sketch, Sun, News of the World, People. Also in



over 80 provincial evening papers and in the sporting press.

Stock up now to meet the demand. Choose any combination from:

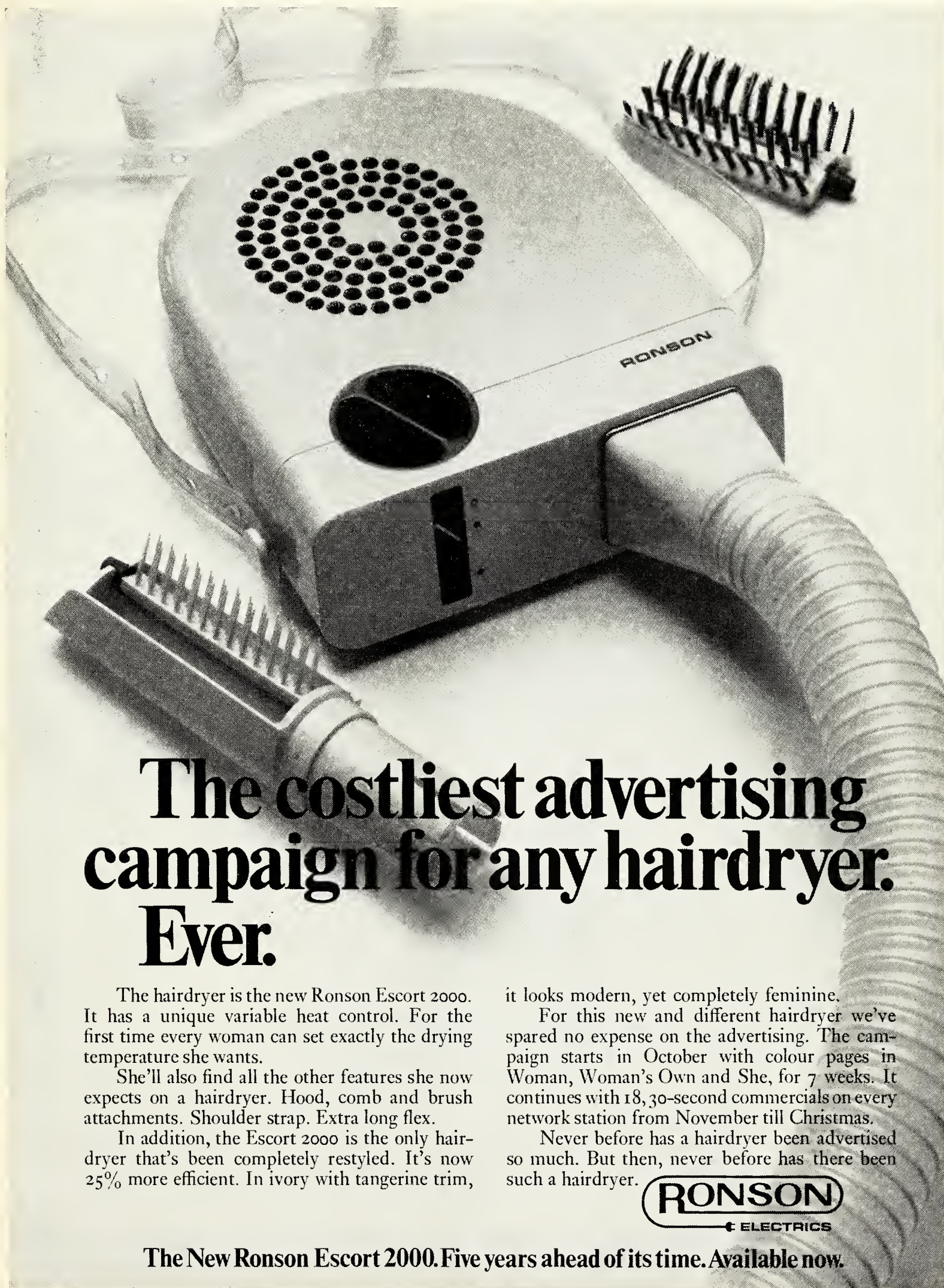
- RADIAN- β Aspirin Spirit Liniment
- RADIAN- α Spirit Dressing
- RADIAN MASSAGE CREAM
- RADIOL BATH SALTS

also

- ARADOLENE Analgesic Cream
- ASPELLIN (E. C. 10 only)
- RADIOL VETERINARY PRODUCTS

Send your discount order now.

RADIOL CHEMICALS LTD. Stepfield, Witham, Essex. Tel: Witham 2538
Scottish Agents: Wade Pharmaceuticals Ltd., Springfield Laboratories, Bishopsbriggs, Glasgow, Lanark. Tel: 041-772 1152
N. Ireland Agent: A. E. Atkinson, 135 Old Park Road, Belfast BT 14 6FQ. Tel: 745 197



The costliest advertising campaign for any hairdryer. Ever.

The hairdryer is the new Ronson Escort 2000. It has a unique variable heat control. For the first time every woman can set exactly the drying temperature she wants.

She'll also find all the other features she now expects on a hairdryer. Hood, comb and brush attachments. Shoulder strap. Extra long flex.

In addition, the Escort 2000 is the only hairdryer that's been completely restyled. It's now 25% more efficient. In ivory with tangerine trim,

it looks modern, yet completely feminine.

For this new and different hairdryer we've spared no expense on the advertising. The campaign starts in October with colour pages in Woman, Woman's Own and She, for 7 weeks. It continues with 18, 30-second commercials on every network station from November till Christmas.

Never before has a hairdryer been advertised so much. But then, never before has there been such a hairdryer.

RONSON
ELECTRICS

The New Ronson Escort 2000. Five years ahead of its time. Available now.

THESE
ARE
THE

Soothers!

Don't miss
this special
DISCOUNT

Stock up these Winter Warmers for bigger profits — "Blue Special" Pastilles available from our representatives until September 30th on special discounts — up to 64%

margin on cost.

Winter is approaching and soon, very soon your customers will be seeking relief from coughs, colds, sniffles and sore throats.

They will *know* their ailments — make sure you have the remedies — "Blue Specials" — Stock up now! They won't be satisfied with anything but the best! "Blue Specials" — 7 quality Pastilles to sooth sore throats, calm nasty coughs and clear that stuffed up feeling.

These are the pastilles that will satisfy your customer and make them buy again.



Glycerin & Thymol — to clear throats — the one that's a bit stronger

Glycerin & Blackcurrant — mild, flavourful — a favourite with the children

Glycerin, Lemon & Honey — for those who like them sweeter

Menthol & Eucalyptus — to relieve stuffiness

Catarrh Pastilles — for that back of the throat irritation and stuffy nose

Smokies — the smokers' friend

Cherry Cough — warm and comforting

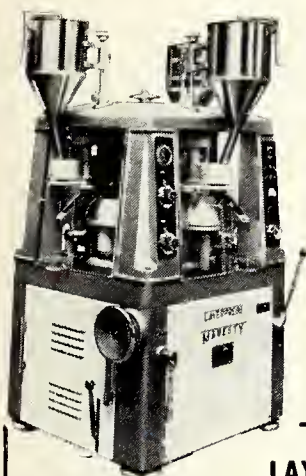


Blue Special Pastilles

Meggeson-Warrick Division of White Laboratories Limited, Penarth St., London S.E.15

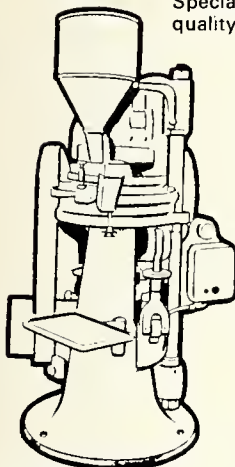
TABLET MAKING MACHINERY

MANESTY provides a full range of equipment for the production of compressed tablets and pellets. This range includes equipment ancillary to the compression process such as Mixers, Granulators, Mills, Dryers, Coating Units, Control gear, etc. MANESTY Tablet Machines are well designed, soundly engineered and reasonably priced. Both eccentric and Rotary presses for Research and Development, Medium and High Production. The MANESTY Experimental Department offers a complete Tableting advisory service. MANESTY—THE world name in TABLETING.



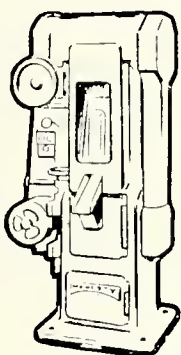
LAYERPRESS

Specially designed for high quality 2 and 3 layer tablets.



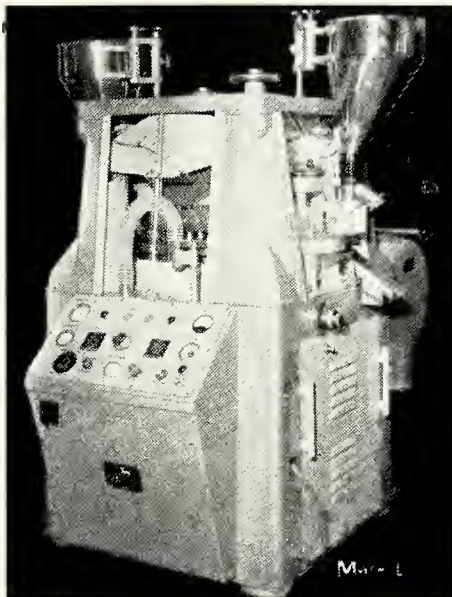
ROTARY TABLET MACHINES

The 'B' & 'D' range of Robust and Simple tablet machines at an economic price, offer hard work and long service.



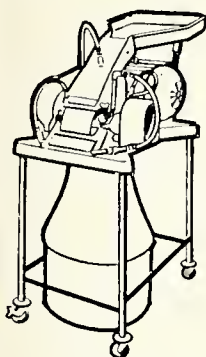
PELLETING PRESSES 35T

A heavy duty eccentric press, making Pellets up to 3 in. in diameter. Designed for precise and continuous work.



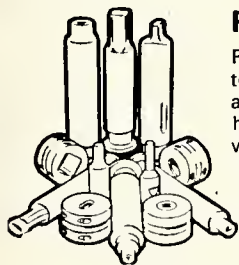
ROTAPRESS

Modern, high-speed Rotary tabletting press, for continuous high production, easy operation and minimum maintenance. Outputs up to 320,000 tablets per hour. Fitted with Rotaflow feeders. Also now available the MARK II model which has all the qualities that distinguish the original Rotapress but with additional design features that *double* output.



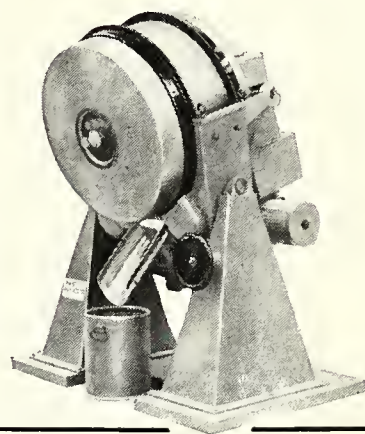
FITZMILL

The Standard Machine is an all purpose comminuting machine for wet and dry granulation; size reduction; pulverization; dispersion; milling, etc. All contact parts in Stainless Steel. Easy to clean. The *High Speed Model Fitzmill*, with controlled feed and Water jacket, is ideal for fine grinding.



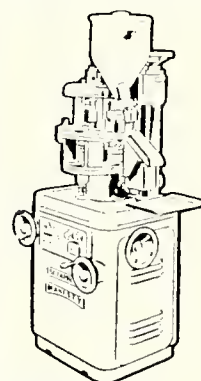
PUNCHES & DIES

Perfect tablets and long tool life require Punches and Dies made to the highest standards of workmanship. Manesty experience is unrivalled in Punch and Die making, we offer the finest tools at the most competitive prices.



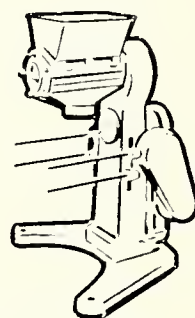
AUTOCOTA

The Autocota is an entirely new conception in fully *Automatic* coating machine development. Designed to remove the element of skill from the coating process and to produce coated tablets of the very highest quality.



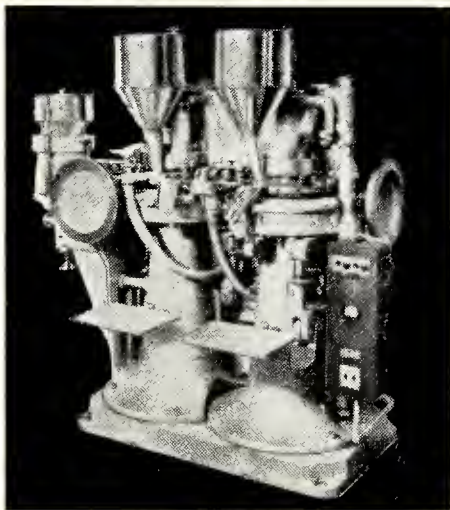
BETAPRESS

High output, medium production tablet press, with Rotaflow feeders, precompression, punch scraper seals, etc. '16' and '23' station models with outputs up to 126,000 tablets per hour.



ROTORGRAN

Controlled size-reduction. All contact parts in Stainless Steel; easy to clean and simple to operate.

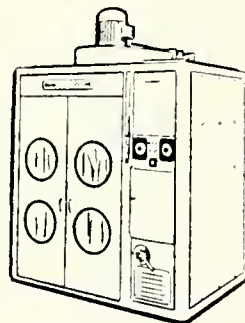


DRYCOTA and BICOTA

MANESTY Drycota and Bicota are world famous, Compression Coating Machines. They produce Coated, Layer and Conventional tablets with full sampling and core detection facilities. Drycota single coating and two layer. Bicota double coating or three layer tablets.

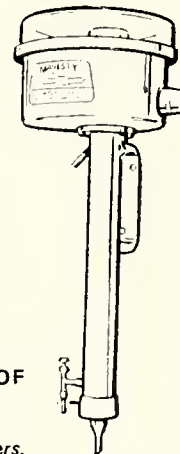
MANESTY-PETRIE FLUID BED DIFFUSION DRYERS

Dramatically reduce drying times. 10, 30, 60 and 100 kilo models available with Electrical or Steam heating.



AUTOMATIC WATER STILLS

MANESTY Stills produce Pure Water at low cost. Continuous and consistent operation. Models from 2 pints to 45 gallons per hour. Electrical, Steam, Gas or Paraffin heating. Standard and Vitreous finishes. *Illustrated*. Attractive efficient and economically priced \$45 SS Model.



ORDER YOUR COPY OF 'TABLET MAKING'

An invaluable practical hand-book for tablet makers.

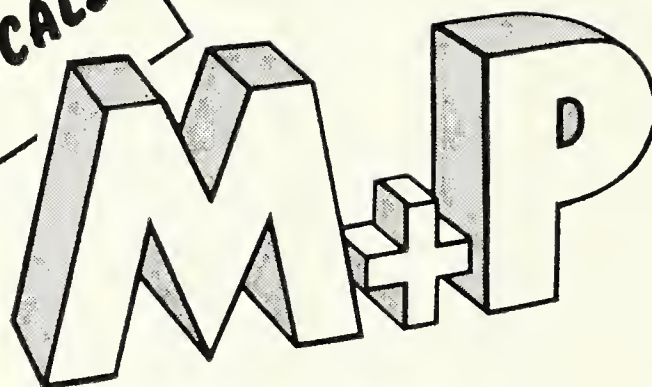
MANESTY

the name behind the greatest names in tablets



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with a PLUS for all
Pharmacists in the
NORTH-EAST**



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counties. Speedy service for the busy pharmacist!

NEWCASTLE UPON TYNE

29751

(DAY)

17 LINES

28367

(NIGHT)

3 LINES

**MAWSON AND PROCTOR PHARMACEUTICALS LTD., LOW FRIAR LANE, NEWCASTLE UPON TYNE 1
NE 99 1 RN**

Drug exports for July approach £10 m mark

Exports of medicinal and pharmaceutical products from the United Kingdom during July reached the record level of £9.82 million and £10.5 million with the addition of medicated and non-medicated dressings.

The values of the principal items making up those totals are in the tables opposite together with the equivalent imports which were also at near-record levels for any month of the current year.

Japan was the largest single market for UK pharmaceuticals during July, the value being £670,000. Next was the Irish Republic with purchases worth £561,000 and thirdly Belgium's £517,000. The United States, France and Nigeria each had purchases worth over £400,000.

Of the £2.21 million imports Western Germany supplied £586,000 and Switzerland £338,000.

Overseas Trade Accounts July, HM Stationery Office 30s.

EXPORTS	£'000s
Vitamins, bulk products	211
Antibiotics:	192
penicillin, bulk products	190
other antibiotics, bulk products	1,001
Alkaloids bulk products	576
Hormones, bulk products	1,462
Glycosides	255
Organotherapeutic glands, etc., bulk products	8
Sera and vaccines	71
Aspirin, bulk products	562
Antihistamine products	49
Antipaludic products	23
Barbiturates, bulk products	19
Ointments, liniments*	279
Surgical dressings	43
Sulphonamides, bulk tablets	84
Other products	96
Other medicines	66
	34
	26
	110
	682
	89
	87
	37
	4,420
IMPORTS	
Vitamins	224
Antibiotics	383
Alkaloids	219
Glycosides, glands, sera, vaccines	87
Proprietary and veterinary medicines	852
All other	450
* not specified elsewhere	

Council advises on metric part-doses

Pharmacists should continue to dilute part doses to a full 5 ml or 10 ml volume says the Pharmaceutical Society's Council.

The Council had considered requests that in certain in-

stances part-doses should not be adjusted but has come to the conclusion that it is an advantage for patients to know that a dose is always measured in terms of full 5 ml spoonfuls.

Very small doses of preparations such as digoxin elixir paediatric should continue to be dispensed with a graduated pipette, however.

Retailers £6m turnover

The total average weekly turnover obtained by retail chemists during May - June was £6,063,000, an increase of 2.5 per cent when compared with the same period in 1968. The turnover figures are both compiled from the new basis adopted by Nielsen Drug Index.

In cash sales the small independent pharmacy appears to have achieved a seven per cent increase over a year ago whilst the large independents dropped four per cent. If, however, the figures are compared with the March-April trading period the increases of around ten per cent were achieved by all types of shops and that was reflected throughout the country. The continued dependence of the small private pharmacy upon the National Health Service for a major part of its turnover is emphasised again during May-June period 45.9 per cent of the small independents turnover came from that source. The March-April figure was 49.3 per cent.

Average weekly cash sales in pharmacies during the period were:—

Large independents, £563; multiples, £283; medium independents, £318; small independents, £150. Average weekly N.H.S. receipts per shop for the various types were:— £429; £179; £265 and £162 respectively. The multiples were estimated to have obtained 15.9 per cent of the total turnover for the period, whilst large, medium and small indepen-

dents obtained 16.5, 30.0 and 37.6 per cent respectively. During May independent pharmacies dispensed 87.0 per cent of National Health Service prescriptions (an average of 1,547 per shop per month), multiple pharmacies 13.0 per cent (average 1,308 per shop). National Health Service receipts accounted for 34.7 per cent of the total turnover of multiples and 44.8 per cent of independents.

Sixty new drugs introduced yearly

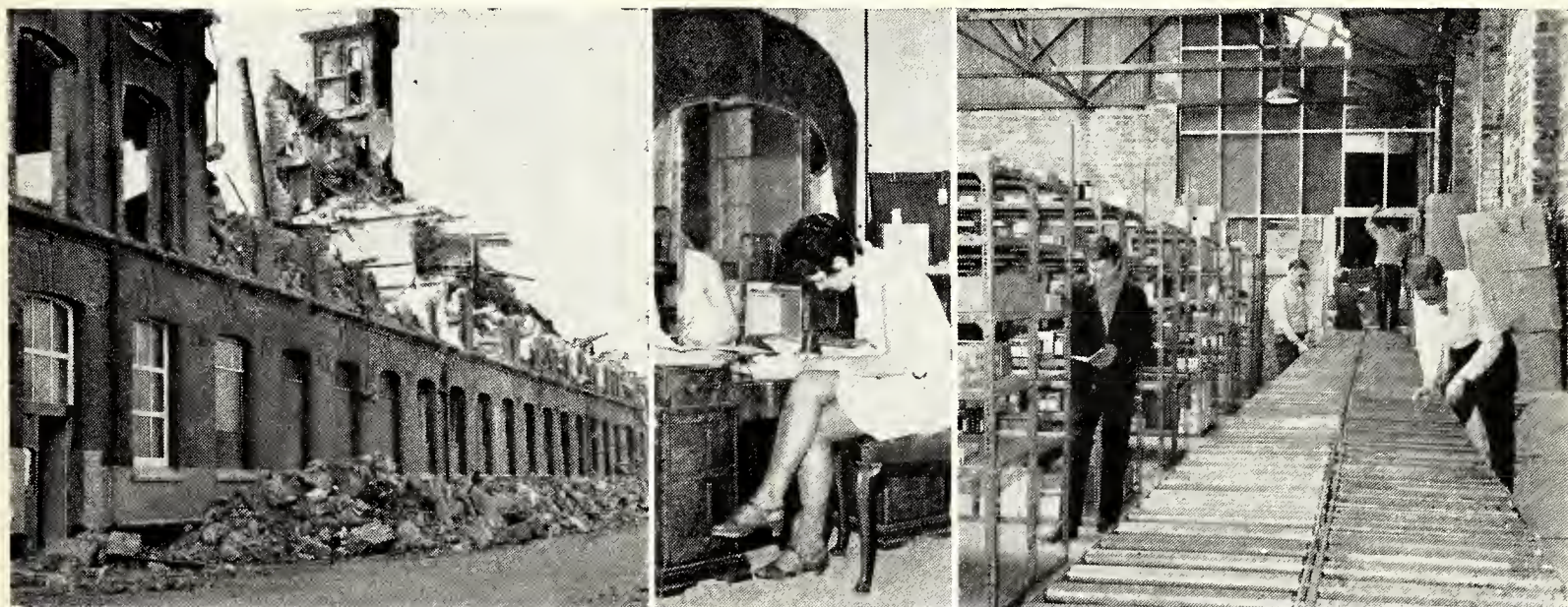
As well as the hundreds of powerful drugs they already had at their disposal doctors had to learn about some 60 new drugs introduced every year, said Sir Derrick Dunlop, chairman of the new Medicines Commission, while addressing the British Veterinary Association's annual congress in Dublin this week.

Sir Derrick said he had calculated that some 1,250 million unwanted pills and bottles of medicine.

Sir Derrick added that about 20 million prescriptions a year were issued in Britain for barbiturates and some 5½ million for hypnotics.

"I reckon, very roughly, that the average UK citizen has about one night in ten's sleep hypnotically induced.

"Thus, these meretricious agents are widely available to be stolen from factories, while in transit, from pharmacists' shops or from fat, tired mums who have become dependent on them."



Hyde and Entwistle Ltd, Belfast's second largest chemists' wholesaler, who were burnt out during last month's violence, are back in business in temporary premises. Left—The burnt-out offices and warehouse during demolition. Only office files were saved, but nobody was hurt. The street, in west Belfast, was closed by soldiers, and the C&D photographer had to get their permission to enter. Centre and right—Business as usual in the company's adjoining temporary premises in Gloucester and Victoria streets, central Belfast. Clerical staff are taking advantage of furniture in what was previously an auction mart. Assembling a conveyor belt in the ethical section of the warehouse. The company is negotiating for permanent premises on the outskirts of Belfast.

Sickness absence rising significantly

In Great Britain 301 million working days were lost through certified sickness absence in 1966-67, equivalent to an average of 15 days for each insured person. Both the number of spells of sickness and the number of days lost from work have been rising significantly over the last decade. Although the 1966-67 figures represent a reduction on the previous year's record figures of sickness absence, there is as yet no reason to believe that the underlying trend towards taking more time off work has been re-

versed according to the Office of Heath Economics.

The cost of this sickness to the Exchequer was £262 million paid out in sickness benefits but more realistically, say OHE, the cost can be calculated in terms of the value of production lost, estimated at £1,200 million.

The largest single cause of absence continued to be bronchitis, accounting for 12 per cent of days lost, and thus 12 per cent of the cost. Respiratory diseases accounted for 22 per cent of all days lost.

Table 1 Spells of sickness absence and working days lost among insured population, Great Britain, 1954-1967.

Year	Spells Commencing (thousands)	Days Lost (millions)
1954	656.9	280.64
1955	703.7	276.77
1956	7183.9	275.28
1957	6669.4	262.42
1958	940.4	292.38
1959	803.5	282.49
1960	7496.1	274.93
1961	825.7	278.95
1962	850.5	280.00
1963	844.4	288.86
1964	8128.0	286.95
1965	8751.0	299.24
1966	9533.5	311.47
1967	8640.2	301.13

Table 2 Total days of incapacity and approximate sickness benefit expenditure in 1966-67 by cause.

Diagnostic group	Days in the period %	Cost in benefits £m
Bronchitis	12	30.4
Influenza	2	6.0
Other respiratory diseases	8	20.2
All diseases of respiratory system	22	56.6
Diseases of circulatory system	10	25.9
Diseases of bones and organs of movement	10	25.7
Mental, psychoneurotic and personality disorders	9	25.1
Diseases of the digestive system	9	23.3
Symptoms, senility and ill-defined conditions	9	25.1
Injuries, accidents, poisoning, etc.	9	22.8
Other causes	22	57.3
Total	100	261.8

Exemptions from purchase tax

The Purchase Tax No. 2 Direction 1969 issued by Customs and Excise which temporarily exempts a further six items classed as essential drugs and medicines from purchase tax. The effect of the Direction, which operated from August 29, is to exempt from tax the following items and their proprietary equivalents (given, where known, in square bracket):

Cytosine arabinoside, whe-

ther or not mixed with benzyl alcohol;

Diazoxide;

4-0-β-D-Galactopyranosyl-

D-fructose [Duphalac];

Pheneturide [Benuride];

Salbutamol [Ventolin];

Silver, whether or not mixed with benzoyl peroxide prepared for veterinary use.

All the above are now included in head II of the Schedule to the Purchase Tax No. 2 Order 1968. The Treasury will in due course be asked to make an Order which will give permanent statutory effect to the Direction.



A recent presentation at Food Industries Ltd marked the retirement of Mr C. T. Haines. C. W. Field Ltd, the Speke based flavour firm which became part of Food Industries when that company was formed in 1965 and Mr. Haines transferred to the board of the new company.

Company chairman (Mr B. E. Harper) presented Mr Haines with a watercolour painting on behalf of the directors and staff. Mr. Haines joined C. W. Field Ltd 47 years ago and was chairman of that company when it joined the Unilever group of companies in September 1963

International Congress of Pharmaceutical Sciences

Below is a time table of events taking place at the International Congress of Pharmaceutical Sciences in London, September 7-12. Light figures indicate morning and heavy figures afternoon events.

Sunday

Registration at the Pharmaceutical Society of Great Britain, 17 Bloomsbury Square, London WC 1.

Monday

10 00 Address of welcome by Sir Solly Zuckerman

10 15 Inaugural Lecture by Professor F. G. Young

2 00 Local excursions

2 00 Symposium Session: "Enzyme induction by drugs in animals" by Professor H. Remmer (Tubingen University), "Enzyme induction by drugs in humans" by Dr A. H. Conney (Burroughs Wellcome & Co, USA)

4 00 Discussion

4 20 "In vivo determination of enzyme activity" by Dr Wolfgang Gruber (Boehringer Mannheim GMBH)

5 05 Discussion

6 30 Reception at the Royal Academy of Arts

Tuesday

9 15 "Enhancement of drug action by drug combinations" by Professor Gross (University of Heidelberg); "Reduction of drug action by drug combinations" by Professor E. J. Ariens (Nijmegen University)

11 15 Discussion

2 00 Local excursions

2 00 "Are drug combinations necessary?" by Professor A. G.

Macgregor (University of Aberdeen); "Are drug combinations necessary?" by Dr B. W. Cromie (E. R. Squibb & Sons, USA)

4 00 Discussion

7 30 Evening at Royal Festival Hall

Wednesday

9 15 Sectional Meetings

(i) Joint colloquium organised by the Sections Scientific, Industrial, Secretaries of Pharmacopoeia Commissions, Directors of Control Laboratories: "Purity of Drugs and Analysis"

(ii) Colloquia organised by the Hospital Pharmacists Section: "Electronics in hospital pharmacy" and "Physiological incompatibilities of drugs"

(iii) Medicinal Plants Section: All-day excursion

(iv) Colloquium organised by the Press and Documentation Section

2 00 Private administration meetings of the Sections (except Medicinal Plants and Scientific)

7 30 Private meeting of the Scientific Section

Thursday

9 15 Personal Communications. These will be read in five Divisions: (i) Pharmaceutical chemistry, (ii) pharmaceutical technology, (iii) control and analysis, (iv) pharmacognosy, (v) biology and pharmacology

2 00 Personal Communications (continued)

2 00 Local excursions

7 00 Congress dinner, Connaught Rooms, Great Queen Street, London, WC 1

Friday

9 15 Sectional Meetings and Colloquia (continued from Wednesday)

Local excursion

2 00 Personal Communications (continued from Thursday)

4 30 Closing Session

Saturday

Departure of post-Congress tours

Pharmacies close and prescriptions fall

Liverpool has lost 20 of its pharmacies in the past two years, the 1968-69 report of Liverpool Executive Council shows. The Council's pharmaceutical contractors were operating 204 pharmacies at the year's end, March 31.

The reduction is blamed partly on "the ravages of redevelopment," concentration of two businesses into one, and the continuing difficulty of securing the services of qualified assistants.

The report says that the profession has established a new record in that during the year

the Pharmaceutical Service Committee did not have to investigate a single case under the drug testing scheme.

Examination of prescription numbers revealed that the demand for a Saturday evening rota service were "infinitesimal" and the rota discontinued on January 1. Liverpool contractors dispensed 3,086,089 prescriptions in 1968, against 5,586,778 in 1967, at a total cost of £2,436,537 (£2,579,382). The fall in cost is attributed to the imposition of prescription charges and the fall in population.

Private labels help stock control

Some advantages to the retailer of "private label" brands are brought out in the July-August edition of *Nielsen Researcher*, published by A. C. Nielsen Co Ltd, Headington, Oxford.

Nielsen have investigated the penetration of private labels in the grocery trade and find that over a list of 18 product classes, the share of consumer expenditure was nearly 30 per cent in the multiples, and nearly 20 per cent in independents grouped by "symbols."

The advantage to the retailer is seen from stock cover ratios. For multiples, consumer sales on a unit basis were

35.2 per cent, whereas retailers' stocks on a unit basis were only 24.3 per cent of the whole. The corresponding figures for symbol independents was 21.9 and 14.5.

Multiples were found to carry only 17 days' forward stock of private label brands against 30 days' stock for manufacturers' advertised brands, showing the measure of control that retailers can exert over the private label. In the independents, stock cover was 22 days' supply against 36 days' for advertised brands.

On average, prices of private label brands were 17 per cent lower than advertised brands in the independents, 24 per cent lower in the multiples.

Inquiry ready for evidence

The Committee of Inquiry on Small Firms is now ready to invite submission of written evidence by interested parties. The following will be among the major areas for study:—

□ The importance of small firms in the economy: Statistical description of the small firm 'population' in terms of their number and size (output, employment, capital, etc.) with an analysis of recent trends and changes in this 'population';

The economic advantages and disadvantages of small firms and especially their rôle as innovators and specialist suppliers.

Their profitability and efficiency in the use of resources, including manpower, finance, capital equipment and materials.

□ The services available to small firms from Government, Government-sponsored agencies and other sources and in particular:—

Technical, commercial and statistical information; Expert advice—from consultants, bankers, accountants, etc; Educational and training facilities;—

The need for co-ordination of the services available and the extent to which they are used by small firms.

□ Special implications for the management and development of small firms of:

Sources of development, finance and working capital;

Taxation, including estate duty; Investment grants;

The operation of the Industrial Training Act, 1964;

The requirements of the Factories Acts;

The disclosure provisions of the Companies Acts;

The requirements of industrial development and planning controls;

The statistical and other returns required by Government.

□ The experience of small firms and attitudes towards them in other countries.

□ Practical proposals which can be put to Government for improving the efficiency of small firms.

Those wishing to submit evidence, however, are advised to contact the Committee Secretary, Mr D. C. Hartridge, 1 Victoria Street, London SW1 (telephone: 01-222 7877, extension 2595).

Back in production weeks after fire

Only six weeks after their colour film processing laboratories were gutted by fire, Tudor Processing Ltd are back in full production.

The building that the company had already acquired for future expansion has been used to house a new colour plant. Smart work from the building contractors, overtime by office and laboratory staff, and immediate and practical help from competitors made the return to production possible.

Of colour films already in hand for processing, 75 per cent were reclaimed from the wreckage. With a duplicating machine, the fire claim forms were printed and sent out to retail customers.

Eight new colour printers had already been ordered. By good fortune they were in stock with the makers, and within days had been installed alongside black and white equipment in the spare building.

For three weeks the colour service was limited to printing. The processing had to be put out to competitors.

The whole colour programme is now back to normal.

Customers have in fact benefited by the disaster, for the new service is faster than the old one. All prints are ready within 48 hours, some within 24.

A night shift is being organised that will, it is hoped, permit a 24-hour service to all.



A general view of Tudor's new processing laboratories. In the foreground is the main despatch area. The company claims the quality of its prints is outstanding. Whole-time sampling, testing and oversight is done by laboratories immediately above

Legislation and the drug industry

When adequate controls on the safety of products which may be purchased for home treatment have moved from being applied at the retail point to being applied at the manufacturing point, the value of the limitation of the distribution of such products needs to be re-examined. When responsible manufacturers are marketing safe, properly labelled products, the public can only benefit from the wide distribution and ready availability of those products.

Such was the contention of Mr John Wells, secretary, Proprietary Association of Great Britain, in his address to the participants of a symposium on "The Impact of Drug Legislation on the Drug Industry" held at the Gottlieb Duttweiler Institute for Economic and Social Studies in Zurich on August 28. The true role of the pharmacist, continued Mr Wells, is to control the supply of more potent preparations.

Present legislation, he said, is too complex, and greater co-operation between the pharmaceutical industry and the various governments concerned could produce simpler and more effective legislation. The answer lies in a greater recognition by health authorities of the ability of responsible manufacturers to control their own advertising and codes of practice, and the speaker cited as an example worthy of consideration by other countries the present voluntary control of advertising as practiced in the United Kingdom by means of the voluntary and detailed Code of Advertising Practice administered by the P.A.G.B.

Home medication is an important supplement to other forms of medical care, and as health insurance schemes develop, doctors will increasingly demand that the public treat simple ailments themselves. The problem of health legislators is to encourage the intelligent use by the public of home medication products and at the same time reduce the dangers of misuse to a minimum.

Referring to the methods by which advertising may be controlled, Mr Wells put forward the following points as the criteria for any satisfactory system of control:

- (a) to prohibit false or misleading claims;
- (b) to limit the offer of pro-

ducts for those conditions thought suitable for home treatment:

- (c) to apply controls in a way which is fair and equitable and one which is accepted by responsible manufacturers and reasonable medical opinion;
- (d) to encourage informative advertising and the development of new and improved products.

The meeting was chaired by Mr H. Norden, vice-chairman of the British Association of Social Psychiatry and editorial director, Portland Publications, London, and among the subjects discussed were the effects of drug legislation on drug safety and effectiveness; on the clinical evaluation of drugs; on the production, distribution and pricing policy relating to drugs; and on the provision of information, advertising and labelling of drugs.

In support of the value of home medication products, Mr Lawrence M. Spalton stated that in his opinion if home medication were suddenly to cease in Great Britain, the National Health Service would collapse. Research, he said, was of no use unless it could be communicated to the community, and reasonable and accurate information on new drugs must be permitted. This point was reiterated by Nigel Fisher MP who stated that promotion was a vital part of drug distribution. New product promotion was as important to the doctor and the patient as it was to the pharmaceutical industry.

Speaking both as a representative of a governmental agency in the absence of Dr Cahal who was prevented from attending, and also as an academic, Prof A. G. MacGregor, University of Aberdeen, suggested that the two present committees in Great Britain, viz the Dunlop Committee and the Standing Joint Committee on the Classification of Proprietary Preparations could well be joined into one single committee, thus ensuring both the safety and efficacy of drugs.

The amount of work now involved in preparing a submission to market a new drug to a governmental body was underlined by Mr Joseph F. Sadusk Jr, Detroit who

pointed out that a new drug to be marketed by his company required the preparation of 72,200 pages in 167 volumes for the American market; 67,128 pages in 151 volumes for the Canadian market; and in contradistinction only 857 pages in 3 volumes for the Dunlop Committee in the United Kingdom.

Several speakers called upon the World Health Organization to become more involved in unifying standards of safety and efficacy of new drugs.

Dr K. Evang, Director-General of the Health Services Norway, drew the attention of the meeting to the resolution recently accepted by the WHO General Assembly in Boston recommending that a certification scheme on an international level be introduced for the control of the quality of pharmaceutical products entering international trade.

Pharmacopoeia has stated its intention to make similar revisions in the next edition of the USP.

The complete list of storage temperature terms and the definitions, which will become effective in NF XIII, is:

Cold place: one having a temperature not exceeding 8° (46°F).

Refrigerator: a cold place with the temperature held between 2° and 8° (36° and 46°F).

Cool place: temperature between 8° and 15° (46° and 59°F).

Room temperature: between 15° and 30° (59° and 86°F).

Excessive heat: above 40° (104°F).

The pill merely an 'interim solution'

A Food and Drug Administration physician believes oral contraceptives are merely an "interim solution" to birth control, and that serious issues of safety have been raised concerning them.

Dr J. J. Schrogie, director of FDA's division of research and liaison, reports in a recent issue of the Agency official publication *FDA Papers* that "every effort should be made to produce a truly contraceptive drug by improving the precision of its biological effect."

He said that much of the published material concerning the agents was too inadequate to precisely document either the existence of or extent of risk.

US report

Redefinition of terms for cold storage

A redefinition of the terminology used to designate storage temperatures for pharmaceuticals has been approved by the United States National Formulary Board. The new terminology will be used in NF XIII, due to be published about January 1970. The U.S.



Golfing Pharmacist of the Year, Mr John Hanley, MPS, receives the Thomond cup, for the second successive year, from Mr Séan O'Neill, MPSI, vice-captain of the Ballyclough Golf Club, Limerick. The cup is donated by M. G. Colour Laboratories.

NEWS IN BRIEF

□ Departing from the traditional long receiving line, the Lord Mayor of Belfast, Ald. Joseph Cairns, entertained Conference officers privately before the civic reception on September 2. He then entered the ballroom in procession with them.

□ Pharmacists should cheer up because they are in a growth industry, says the *Daily Telegraph*, commenting on a statement at the Belfast Conference by Mr Albert Howells, president of the Pharmaceutical Society of Great Britain. He said pharmacies were decreasing because of competition from supermarkets and dispensing doctors.

□ A special date-stamp, to read "Syntex Symposium, 20 Sept. 1969, Cambridge," will be used for franking by the post office during the forthcoming international symposium to be held in Cambridge by Syntex Pharmaceuticals Ltd. The symposium will be entitled "Assay Methods in Investigative Dermatology" and attended by more than 150 specialists from the UK and overseas.

□ The Secretary of State for Social Services, Mr Richard Crossman, has appointed Lord Collison, at present general secretary of the National Union of Agricultural and Allied Workers, to be the new chairman of the Supplementary Benefits Commission succeeding Sir Richard Hayward, CBE, who has been appointed to the board of the new Post Office Corporation.

□ A method of detecting ozone in the presence of nitrous fumes is the subject of *Methods for the Detection of Toxic Substances in Air: Booklet No. 18* (H.M. Stationery Office, price 2s 3d.) The booklet has been prepared by H.M. Factory Inspectorate in collaboration with the Laboratory of the Government Chemist and the Chemical Industries Association.

□ Adoption of the metric system in dispensing has been effected more smoothly than was feared, says Mr A. D. Thornton-Jones, joint secretary to the Joint Formulary Committee, in the August issue of *Health Trends*. Mr Thornton-Jones indicates some points of confusion and asks prescribers who intend part doses (such as 3.5 ml of a proprietary preparation reformulated to 5 ml) to emphasise the figure by underlining or other method.

□ Details for the annual conference of the Institute of Pharmacy management to be held at Clarendon hotel, Leamington Spa, Warwicks, October 26-27, have now been completed. The programme will include the following speakers: J. A. Croucher on "Problems of Establishment of a General Practice Pharmacy"; T. G. Booth and J. F. Jones on "Policy and Decision in Financial Expenditure" (a case study); S. G. Davison on "Economics of Small-Scale Production in General Practice Pharmacy" and H. W. Tomski on "A Survey of the Cosmetics Market."

The Xrayser column

Salt into the wound

I have read with sympathy and concern of the disturbances in Northern Ireland, almost on the eve of the meeting of the British Pharmaceutical Conference. There has been damage to pharmacies and considerable disruption of business, as will be readily appreciated. And, hard on the heels of the upset, a circular letter has been addressed to the contractors of Northern Ireland, containing the sentence: "Due to an error in the information supplied to the computer for the months of January, February and March, 1969, the payment for collection of prescription charges was calculated at the rate of 1.6d instead of 0.5d per prescription, an overpayment of 1.1d per prescription." (There is nothing to indicate that the difference of 1.1d was calculated by hand or by computer.) With only a superficial knowledge of the computer, gained from a recent series of articles contributed by Mr A. W. Patterson, I have gathered that it is advisable to feed the correct information to the monster—and on this occasion that has not been done. That seems to me to be inexcusable, and I have considerable sympathy for the contractors who are now to have the difference deducted from the cheque payable in September, 1969. A sop has been thrown in to the effect that there is a container allowance increase of 0.11d per prescription. I think the least that could have been done would have been to recover the difference at the rate of 0.11d per prescription until the account was squared. That would have justified the expense of the computer—and the guilty parties, whoever they might be, could have sat up through the long watches of the night supplying the necessary information.

Dosage of medicines

The Council of the Pharmaceutical Society has considered requests made for the re-introduction of doses smaller than 5 ml, when specifically ordered in that form by the prescriber, and has expressed the opinion that any exceptions to the general rule would be undesirable. The information appears in the form of a Council Statement, in the course of which the view is expressed that a dose volume of 5 ml is not considered to be excessive even for small infants. But what of the position when the prescriber starts his treatment with 5 ml of the undiluted preparation for the first four doses and then desires half that quantity for the remainder of the course? And a mere reaffirmation of the position does not deal with the question of 30 or 60 ml doses. It seems to me that the statement issued has not given sufficient consideration to all the practical difficulties, and I should have liked to see greater time taken for deliberation. And nothing would be lost by an admission that there might be room for improvement and that the subject would be kept under constant review.

Sweeter than the berry

I must make an appointment with your correspondent, Mr E. J. Cooper, who confesses to finding himself bowled over by the word "unconfectioned" at the head of a column on an invoice. I think he and I should together seek elucidation at the source. But I think our personal call should be made subsequent to a visit to one of the new supermarkets for retailers, described on p 175. We would there be greeted by a trained and uniformed hostess, and given an ergonomically designed trolley. Just picture the impression Mr Cooper and I would make arriving in state at the portals of the firm concerned on such a vehicle—particularly if we were to be accompanied by the uniformed hostess! We might be invited to stay and partake of unconfections even ruddier than the cherry.

COMPANY NEWS

Sales merger of food groups

From September 8, the Energen range of slimming products and the variety of brands sold by Scott-Brand Foods are to be marketed through one national sales force. The new streamlined sales force is the spearhead of a new company, Scott-Energen Foods, formed by the amalgamation of the Scott-Brand and Energen companies within the giant Ranks Hovis McDougall grocery products division.

A wide range of nationally known brand leaders, including Energen crispbreads and rolls will be sold and merchandised by the Scott-Energen field force, headed by former Energen general sales manager, Tony Hunt.

Mr Ingram Smith, formerly a senior executive with Energen becomes sales promotion manager of the new company and will co-ordinate the activities of two newly appointed national account executives, Dennis Ginns and Charles Alderson. Three new regional sales managers are: D. J. Sage (Southern), W. E. Alderman (Midland) and J. S. Sullivan (Northern/Scottish).

Berk sales higher

Group operating profit, before tax, of Berk Ltd for the half year ended June 30 was £525,000 (£572,000 in the same period of 1968) and after deducting tax and minority interests, £268,000 (£301,000). Sales at £10.4m. were 5.5 per cent higher than in the corresponding period last year. Profit before tax was £47,000 below last year's figure but the latter included a once-only benefit from devaluation. The board has declared an interim dividend of fourpence (same) per share. In the absence of unforeseen circumstances, they will recommend payment of an increased final dividend for 1969 of 4.28d (1968—4d) per share.

Ashe Chemical results

Profits of Ashe Chemical Ltd for the six months to June 30, were £159,000 (compared with £157,000 in the same 1968 period). The directors state that profits would have been "appreciably greater" had it not been for circumstances beyond their control which arose in two overseas markets. The difficulties encountered have now been satisfactorily resolved, they add.

Because of seasonal factors profits for the second half normally exceed those for the first half and the directors view the future with the same confidence as expressed in the past. The interim dividend is effectively maintained at 9 per cent.



The new headquarters of Roussel (Canada) Ltd in Montreal, Canada, where management teams from Wembley Park are currently training a number of newly recruited medical representatives (C&D, August 30, p 178)

Photopia profits slump

Profits of Photopia International Ltd in the year ended April 30, fell from £137,122 to £12,702 but the dividend is held at one shilling per share for the year. The net profit after tax was £14,702 (against £102,721 for 1967-68).

Eastern Europe office

Reckitt & Colman (Overseas) Ltd have opened an eastern European promotion office in Vienna, to develop their trade further.

Since July 1968, Peter Ryan has been export manager for Eastern Europe, including Austria and Yugoslavia and now he will be based in Vienna rather than in Britain.

Companies of the Reckitt & Colman group are participating this year in four exhibitions in Eastern Europe—the spring and autumn Leipzig fairs, Pilsen fair in Czechoslovakia, and Obuv '69 in Moscow.

A. C. Nielsen & Co Ltd: The first ten months of their financial year shows revenue increases averaging 16 per cent in each of the 20 countries where the company operates, said Mr A. C. Nielsen snr, founder and chairman, recently.

Ian Young & Co Aerosols Ltd are moving into a new factory at Foundry Lane, Horsham, Sussex. (telephone: Horsham 5544). An Aerofill filling machine will be installed within the next two weeks, which will enable them to fill a larger range of aerosol products for contract customers.

Appointments

Gillette Industries Ltd have appointed Jack Bureau as group brand manager (toiletries). Mr Bureau joined the com-



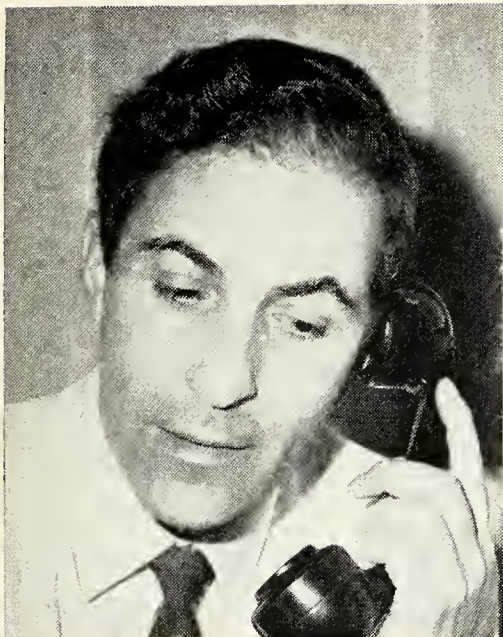
pany in 1961 and was market research manager before becoming brand manager in charge of Techmatic and other razors in 1968.

Business briefly

MacAndrews & Forbes Ltd are moving to Pembroke House, Wellesley Road, Croydon CR9 3Q3, on September 29. (telephone: 01-686 0826.)

Boots Ltd, Richmond, Surrey, have submitted plans to the local council for using an empty shop next to their premises in George Street.

E. C. De Witt & Co Ltd have acquired an interest in Trentham Laboratories H.T.L. (Nottingham) Ltd. As previously announced (August 16, p 137) Mr R. S. Clapton, marketing manager of De Witt & Co, has been appointed to the board of Trentham Laboratories.



Dr M. Cymbalist

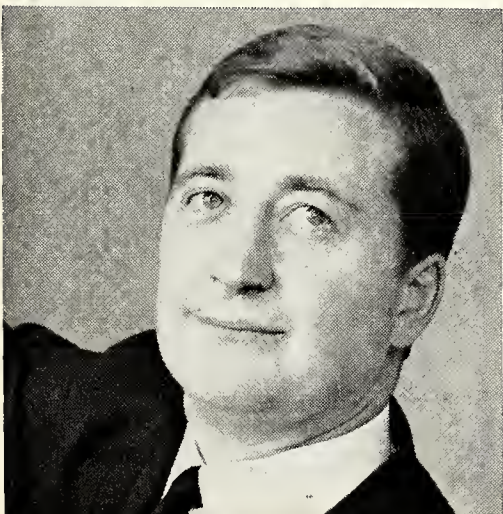
Wellcome Foundation Ltd have appointed Michael Cymbalist BPharm, PhD, FPS, as pharmacologist in the marketing division (medical). Dr Cymbalist graduated in 1952 from London University's School of Pharmacy and was awarded his PhD in 1966 for work on the cardiovascular system.

In his spare time Dr Cymbalist is a committee member of the North Metropolitan Branch of the Pharmaceutical Society and also joint secretary of the newly-formed Anglia Region of the Society.

Boots the Chemists Ltd have elected five new directors to their board. They are Dr Peter T. Main, director of research; Messrs Alun G. Price, MPS, territorial general manager for Manchester; T. M. Tannahill, FPS, medical proprietaries buyer; Kenneth F. Whynes, MPS, territorial general manager for Cambridge; and Frank W. Wright, MPS, retail staff manager.

Pharmitalia (UK) Ltd, Kingmaker House, Barnet, Herts, have promoted the following representatives Messrs Peter Edmondson, Philip Kingston and Colin Mackinnon to regional managers.

Tony Hunt, former general sales manager for Energen, who has been appointed to head the new Scott-Energen Foods Ltd (see p 198)



PEOPLE

Mrs R. J. Jeffers, MPSNI, Irish area manager of Allen & Hanburys Ltd, has retired after 37 years' service with the company. He served his apprenticeship with S. Connor & Sons, Newry, co. Down, and qualified as a pharmacist in 1930. He joined Allen & Hanburys as a medical representative in 1932 and was appointed their Irish area manager in 1951. He is succeeded in that post by Mr J. J. McMorro, MPSI.

Mr Frank Freeman, FRIC, newly appointed managing director of Squibb Hellas/Vitarine, Athens, was formerly director of production at E. R. Squibb & Sons Ltd's plant at Moreton, Ches. Joining Squibb UK as quality control manager in 1953, Mr Freeman succeeded to a number of key positions within the company before being appointed a director in 1963. As production director, Mr Freeman was responsible for finding a site and guiding and implementing the design plans for the Squibb plant at Moreton.

Dr Alan Batley, FRPS, ARIC, a director of the board of Kodak Ltd for the past ten years, retired at the end of August after more than forty years service with the company.

Dr Batley graduated as a physical chemist at Liverpool University where his subsequent Ph.D. research studies in the years 1926-1928 brought him into correspondence contact with Dr C. E. K. Mees of the Eastman Kodak Co. He joined the Kodak Research Laboratory at Harrow in 1929, soon after its formation and in 1936 became an assistant superintendent of the laboratory. His participation during the war in the company's technical services to essential industries and to the Service Ministries, led to his appointment as technical advisor to the managing director in 1945 and to his formation of the technical advisory department.

In 1950 he became deputy general sales manager, becoming general sales manager in 1952, director of sales in 1959 and director of marketing and distribution in 1968.

During the past year or so, Dr Batley has been giving some time to committee work for local hospital services. He now sits on the Harefield and Northwood Hospital Management Committee.

Mrs Bobby Wells who supervises the printing of price tickets for Boots Pure Drug Co, Nottingham has received £200 from the company.

Mrs Wells spotted that descriptions of the goods were printed both on the tickets and the boxes and pointed out that descriptions were only needed on the boxes themselves. Now, minus the descriptions, the tickets can be cut down to half the size with corresponding saving to the company.

Peter Ryan (39), export manager for Eastern Europe for Reckitt & Colman (see p 198) graduated from Exeter College, Oxford, and after working with

other companies, joined Reckitt & Colman (Overseas) in 1960. He has specialised in exports to Europe, and since 1967 has been exclusively concerned with Eastern Europe.

He is an expert linguist, being fluent in French, German, Spanish and Italian, as well as having a working knowledge of Russian and Norwegian.

Deaths

Allcorn: On August 12, Mr Thomas Alfred Allcorn, MPS, 40 Sydenham Road, Croydon, Surrey. Mr Allcorn qualified in 1922.

Evans: On June 9, Mrs Victoria Ellen Evans, MPS, 55 Abbotsbury Gardens, Eastcote, Pinner, Middlesex. Mrs Evans qualified in 1930.

Finlay: Recently, Mrs Isabella Finlay, MPS, Reaydale, Creek Drive, Port Bannatyne, Bute. Mrs Finlay qualified in 1931.

Hartman: On August 4, Mr Alfred Philip Hartman, MPS, 61 Beaver Road, Ashford, Kent. Mr Hartman qualified in 1929.

Hazrati: Recently, Mr Abbas Khodam Hazrati, MPS, 8 Compton Drive, Maidenhead, Berkshire. Mr Hazrati qualified in 1959.

Henderson: On August 16, Mr Samuel Henderson, MPS, 11 St. Philips Avenue, Eastbourne, Sussex. Mr Henderson qualified in 1922.

Howitt: On August 21, Mrs Dorothy May Howitt, MPS, Querrieu, Tye Green Village, Harlow, Essex. Mrs Howitt qualified in 1941.

Knight: On June 21, Mr Lewis David Knight, MPS, Widgery, Northdown Road, Bideford, Devon. Mr Knight qualified in 1921.

Parrish: On August 13, Mr Norman Rhys Parrish, MPS, 30 Twycross Grove, Hodge Hill, Birmingham 34. Mr Parrish qualified in 1931.

Rawling: On August 17, Mr Tom Rawling, MPS, 25 Common Road, Hanham Common, Hanham, Bristol. Mr Rawling qualified in 1913.

Reedman: On August 10, Mr Edmund John Reedman, MPS, Awel-y-Mynydd, Hayscastle Cross, Haverfordwest, Pembrokeshire. Mr Reedman qualified in 1920.

Smith: On July 24, Mr John Smith, MPS, Riverdale, Rothbury, Morpeth, Northumberland. Mr Smith qualified in 1924.

Wilson: Recently Mr B. C. H. "Bert" Wilson, aged 55 a representative of Cussons Son & Co Ltd, Kersal Vale, Manchester. Mr Wilson had been with Cussons since 1956, he leaves a widow and three children.

New companies

PC=Private Company RO=Registered Office

Drug Store Services and Supplies Ltd (PC)—capital £100. Subscribers: S. H. Davis, D. Ordish, Leonard Street, London, EC2.

Jaycee Chemists Ltd (PC)—capital £100. Chemists, etc. Directors: Jaydev C. Jani, Virginia F. Jani. RO: 442 Uxbridge Road, Hammersmith, London W 12.

*The
Pharmacist's
Antiseptic*



THE QUEEN'S AWARD
TO INDUSTRY
1966 1967 1968 1969

SAV74

COMMENT COMMENT COMMENT COMMENT COMMENT

Trends in pharmaceutical sciences

Science session devotees at this year's Conference might be excused if they complained of being worked too hard. For the first time, so far as anyone could recall, the sessions had to encroach into an evening, as did the important discussion on the method of presentation of papers at future conferences.

The intrusion was unfortunate, because the Conference is very much an occasion for interchange of ideas—not only between the science-orientated but also between those specialist members and the general practitioners of pharmacy who in the end make use of the research undertaken. And it is the evening social functions that provide the best atmosphere and opportunity for such communication.

Within the science sessions themselves, the topic range was as wide as ever. Among the overseas contributors was Dr S. Görög from Hungary, a welcome visitor from Eastern Europe. Authors from the United Arab Republic were unable to present their paper personally, but their contribution once again indicates the attraction the Conference continues to have for pharmaceutical scientists overseas.

The analytical papers produced some contributions from the pharmaceutical industry, reinforcing Dr Hersant's references in his opening address to the application of new techniques to impurity limit tests in official standards. Of particular interest here was a chromatographic method to replace the microbiological assay of oxytetracycline. Novel approaches to the assays of male fern extract and ipecacuanha alkaloids show that there is still something new to be learned about the older drugs.

Further evidence of continuing activity in the field of pharmacognosy was contained in papers carrying on from previous conferences the story of the studies currently being undertaken at the Chelsea School of Pharmacy into the morphology and chemistry of the three West African species of *Mitragyna*. Also taken up from a previous conference was the subject of the structure of *Physostigma venenosum* alkaloids, whose absolute configuration has now been determined by workers at the School of Pharmacy, University of Manchester.

Pharmacognosists are also adapting new techniques to their needs, as was shown by two papers from the University of Strathclyde. By harnessing what has by now become a well established data-handling technique to the old problem of drug identification Dr F. Fish and Mr P. F. Nelson have produced, for the identification of powdered drugs and spices, a punched-card system that speeds up that operation and may well ease the burden on memory of future students. An even more up-to-date innovation, high-voltage electrophoresis, has, for what is believed to be the first time in Great Britain, been used by Dr Fish and Mr Calderwood. It was used by the authors for the separation of alkaloids in the S. American *Fagara* species.

Three papers on tableting from the School of Pharmacy, University of London, may at first glance appear

entirely academic. However, they form part of continuing work in this field at the "Square" and represent an attempt to progress towards an understanding of tablet and powder behaviour, starting from the individual particles in an assembly and moving towards the bulk properties.

The industrial pharmacists present at the session appeared well able to control bulk properties by empirical methods—though they agreed the methods could be improved. Perhaps the way to such improvement will be found as the reasons the empirical methods work come gradually to be understood.

In other areas, too, the search continues for mathematical models that would enable formulation problems to move out of the area of empiricism. Mr Varney of ICI Ltd has examined some of the problems encountered with suspensions and Chelsea workers led by Dr Bean have reached the stage of providing means of predicting the efficiency of a preservative added to emulsion systems.

Next Conference may see a change in the science sessions if the organisers are unable, as has been suggested, to provide preprints of the papers. Should that change come in the form of presentation of summaries only, we share Professor Beckett's hope that the discussions may be even livelier, contributors having the knowledge that their remarks might be incorporated in the papers eventually published.

A worthy international exchange

"We have to use new drugs quickly before they lose their power." That statement attributed to Dr Osler sums up in a few words the two days' discussions on the Impact of Drug Legislation on the Drug Industry held recently in Zurich (see p 196).

Meetings on an international level to discuss all aspects of the effect of the discovery of a multitude of new synthetic drugs on the practice of medicine are becoming almost commonplace. That is as it should be. Even if the immediate results of such meetings are not always apparent, the continually diminishing size of the world in which we live demands continuous thought on a standardised approach to the subject of drug safety and efficacy.

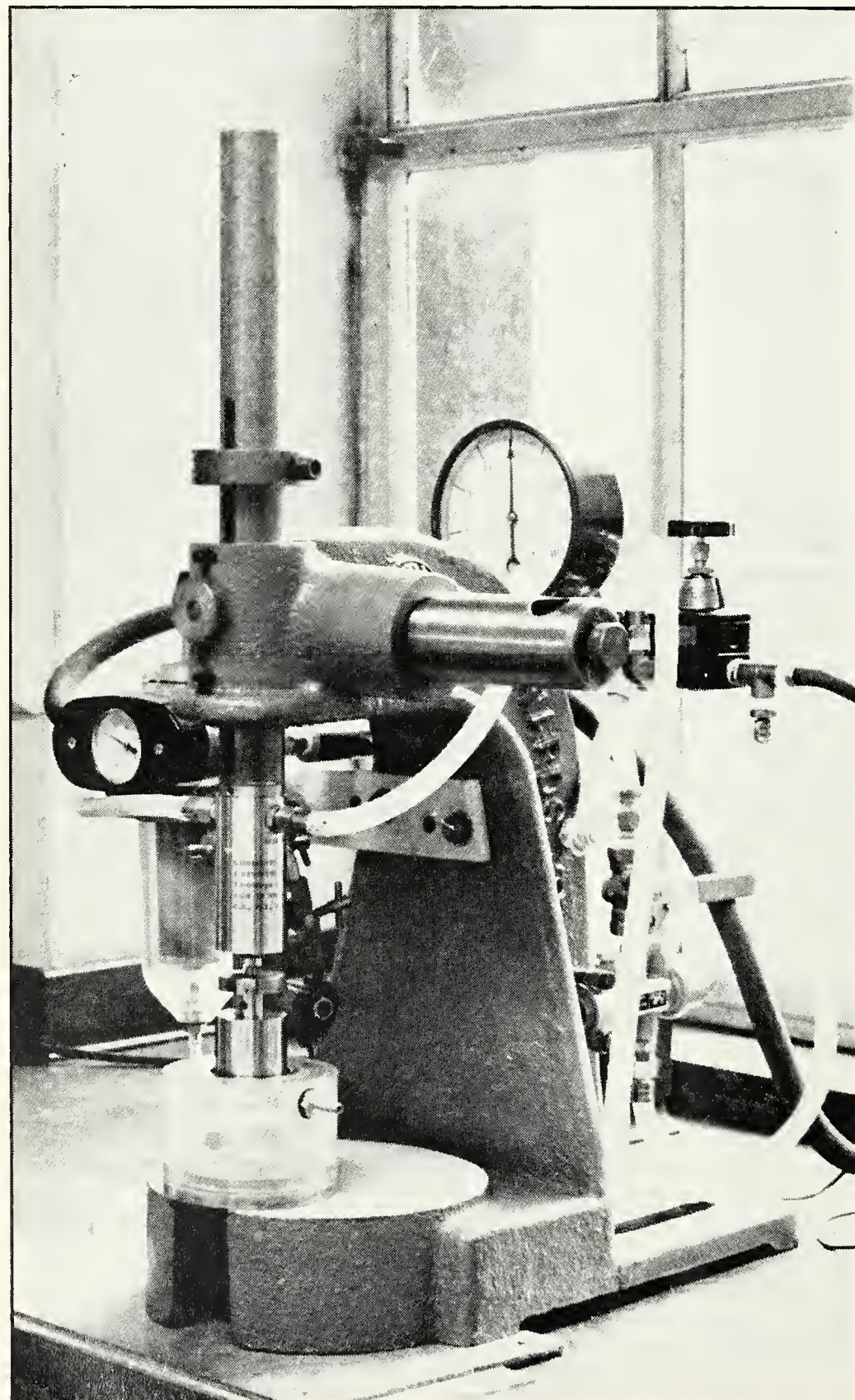
Regrettably the world's political structure almost ensures that safeguards are set up in a haphazard fashion as between countries and it becomes necessary to discover how the essentials may be unified internationally both in the interests of world trade and the person who is so often forgotten in these discussions, the consumer or patient.

The aims of the Gottlieb Duttweiler Institute under whose auspices this meeting was held, demand creative thought at an international level and that parochial thinking should be abandoned for more understanding between the interests concerned.

The subject of drug safety and efficacy affects pharmacists both as world citizens and professional men, and we can only applaud and support the efforts that are being made internationally at such meetings as that in Zurich although we would not subscribe to all the views that were promulgated there.

AIR TURBINES APPLIED TO VISCOMETRY

by J J Deer, a member of a team at the University of London's School of Pharmacy that developed a viscometer for studying rheological behaviour over a range of shear rates ranging from virtually zero



An important property of pharmaceutical semi-solids, such as creams and ointments and of liquid preparations such as emulsions and suspension is their viscosity. Actually, what is often loosely called *viscosity* is a complex of properties which is better called *rheological behaviour*. The resistance of creams to deformation, and their recovery from it, depends upon the rate at which the deformation is caused, its extent, the time span over which the deforming stress is applied, and in some cases upon the previous history of applied stress.

Many mechanical arrangements have been devised to characterise rheological behaviour. The most useful and popular are those having a pair of concentric cylinders, or a cone and a plate. One member is rotationally driven, and the drag on the other is measured and recorded. The cone and plate arrangement has the advantage that by choosing the correct cone angle, the higher linear velocity at the outer edge is compensated by the increased thickness of test material, so that the shear rate is constant over the whole specimen.

The usual drive mechanism for such rotational viscometers is an electric motor, but electric motors have the big disadvantage that the torque, or twisting force, which they produce on a shaft is dependent upon the speed at which they are allowed to run. To some extent this can be compensated by increased complexity of the armature and field coil windings, but a common feature of all motors is that they tend to take a heavy current and burn out if made to run slowly and provide a large torque. At high speeds they react to a change in load by changing their speed. The drive for most commercial rotary viscometers is thus a larger motor than might appear necessary at first sight, working through gearing to reduce speed, and preferably fed from a stabilised electrical supply.

All these complications can be made unnecessary by using an air bearing, in which a rotating shaft is turned in a thin film of air. This gives a frictionless support for the rotating member. The rotational driving force is supplied by a small air turbine formed as an integral part of the air bearing. The torque is controlled by the air turbine pressure and is a function of the mass/velocity ratio of the air ejected from the turbine; its value is visible on a pressure gauge, and it is independent of the speed at which the shaft is turning. It is also controllable down to zero rotational speed, which means that the same apparatus can be used for creep testing, with a very low rate of deformation, and for viscosity measurement, where a rapid rotation may be needed.

Creep tests require a constant stress applied to a sample in order to follow the strain response with time. An air turbine viscometer to meet that need was developed at the School of Pharmacy, University of London at the behest of Professor E. Shotton.

Turbine drives are by no means new. In fact they have been known for centuries. Nowadays they are chiefly

associated with massive and highly expensive electrical generating machines or with the aircraft industry. Only in recent years have very small efficient turbines, built into air bearings, become commercially available. These are used as high speed drilling or grinding spindles in the electronic and metal-forming industries. They are also becoming increasingly popular in dentistry. They are designed to operate at speeds of up to 500,000 r.p.m. Such speeds demand extreme accuracy in manufacture, to achieve the essentials of perfect dynamic balance and freedom from bearing friction—two features which are almost as important to the high quality viscometer, but for quite different reasons.

The manufacturing precision needed to produce a successful air bearing is great. The clearance between the rotating shaft and the body in which it runs is 0.0005 in. Thus the straightness of the shaft and the body and their circularity, must be controlled to better than this. Only in such thin films can air be used as a lubricant at moderate pressures of 20-80 lb/sq in.

A model PCB 1 (Westwind Turbines) drilling spindle was selected as the most suitable unit for the apparatus on the grounds of availability, cost, performance and size. The rotor, **fig. 3**, consists of a cylindrical body, accurately ground, which forms the main bearing. The projection at the lower end is for connection to the viscometer and is drilled or threaded appropriately. The wider flange at the top forms the thrust bearing. Air is fed onto its upper and lower sides to restrain axial movement of the rotor.

Holes are drilled horizontally through it. **Fig. 2** is a view of the top of the rotor. These holes form the air turbine drive. Air is bled off the main bearing supply and is led into the central hole in the top of the rotor. It leaves through the drilled holes and by reaction turns the rotor.

Fig. 1 is a cutaway view of the rotor in its casing. The air supply routes can be seen. To keep the diagram clear the exit route of the air is not shown. It can be at any convenient point on the body.

The turbine and control gear were mounted on a heavy metal stand, and provision made for the use of either concentric cylinders, or cone and plate geometry for the viscometer. Turbine pressure was indicated by a mercury manometer for the lower pressures and by a standard pressure gauge for higher torques.

In the particular model used a slight interaction between the turbine air and the bearing exhaust was apparent, which caused a standing torque even when the turbine drive air pressure was reduced to zero. This was of constant value and could be allowed for in calculation.

Later experiments indicated that this effect is peculiar to the particular design and should not be difficult to avoid in future development.

Various methods to indicate rate of shear may be employed. For continuous shear a stop-watch was satisfactory, for creep testing, a differential transformer system was employed.

The differential transformer consists of a cylindrical core onto which the primary

and secondary windings are formed. Magnetic coupling is by means of a ferrite rod, which is free to move within the core. The ferrite rod is attached at a right angle to the end of a 10 cm. arm, which projects radially from the spindle to which the viscometer rotor is fixed. A very small rotational movement of the rotor therefore causes an effectively linear movement of the ferrite rod, which in turn causes a variation in the transformer output. Movements of 0.001 in are readily detected by this method which, converted to angular displacement of the rotor, enables extremely small rotor/stator variation to be displayed on an electrical meter.

There is, of course, a demand for an inexpensive viscometer, as well as for the sophisticated research instrument. While the rather expensive air bearing may be considered essential for some purposes, it may be possible to employ a considerably less expensive ball or roller bearing system of support for a simple teaching or routine inspection instrument. Friction losses of less than 10 per cent. are easily attainable in this type.

The present demand for the precision spindle used so far is not great enough to allow prices to fall much below the £100 mark.

This less expensive method of construction will be the next step in development.

Fig. 1

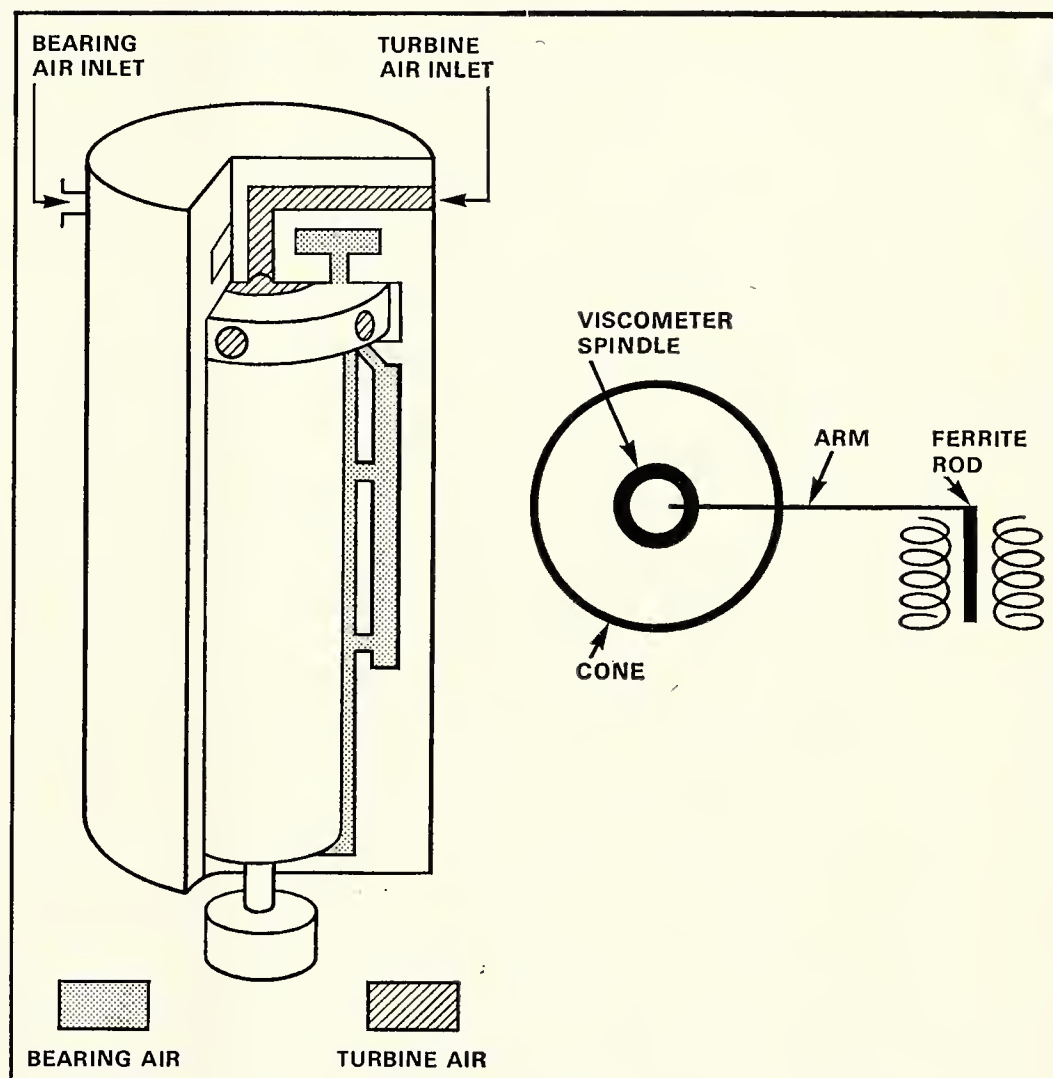


Fig. 2

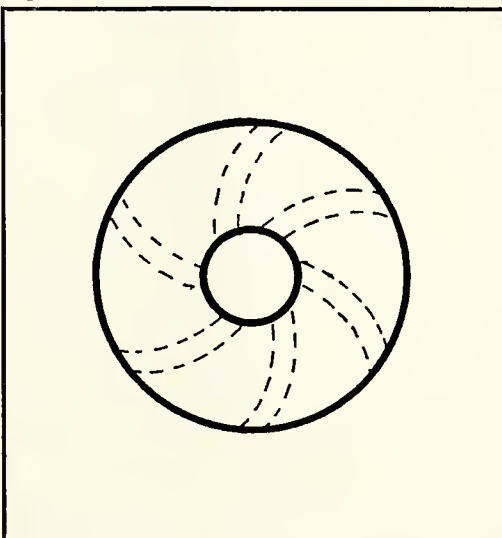
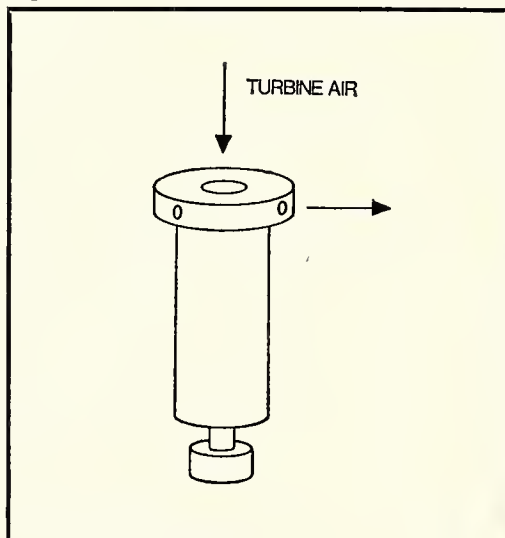


Fig. 3



LETTERS

Complan distribution

The following is a copy of the letter which my committee have forwarded to Glaxo (Ireland) Ltd, following the decision to release Complan to all retail outlets.

We view with dismay your company's unilateral decision to release Complan through non-pharmaceutical outlets, without prior consultation with retail pharmacists at either national or local level. If your company implements this change in policy, we feel that much of the goodwill which exists with retail pharmacists will be destroyed and that your company's ethical reputation will be further undermined.

The circular was dispatched from the headquarters at your parent company in Britain; this seems to imply that this decision may have been taken at a marketing level above your authority. Nevertheless, my committee feels insulted that the circular infers that this decision was forced on your company by abuses of distribution carried out by retail pharmacists. Since Complan has no direct competitor, and is, in a sense, a unique product, we cannot appreciate the necessity of releasing it to all retail outlets, at the expense of the long established goodwill which your company has enjoyed with retail pharmacy.

It is cynical indeed for any company to use pharmacy, and its professional image to establish a new product such as Complan and then to claim that marketing and financial considerations have "forced" it to release the product to all outlets. Such financial considerations are not the only, nor indeed the most important factor, when the overall goodwill of a business relationship is at stake.

Accordingly, my committee requests that you meet with us at your earliest possible convenience, in order to salvage, even at this late stage, some clear and positive thinking on this problem.

Aidan O'Shea, M.P.S.I.,
Secretary
Cork City and County
Chemists Association

Attendance limited

There have been some changes in the arrangements for the study tour of American hospital pharmacists in London October 4-14 (C&D August 9, p 109).

The attendance is now limited to thirty hospital pharmacists in addition to invited speakers and participants, and there will be no registration fee charged to British participants, who will be guests of the American Society of Hospital Pharmacists. The invitation is, however, for attendance at the seminars only and does not include meals, accommodation or attendance at other functions arranged for members of the tour. The first 30 applications received by the Guild at Premier House, 150 Southampton Row, London, WC1, will be accepted. Fees will be re-

turned to those who have already sent them but they need not apply again. If less than 30 applications are received by September 15 applications will be considered from those who wish to attend one or two seminars instead of the whole "conference."

G. Raine
president

Guild of Public Pharmacists

Doctors' case weak

It will have been noted that the medical profession is preparing a campaign demanding substantial increase in remuneration on the grounds of increasing "work load."

It might be appropriate for the Pharmaceutical Society to mount or to threaten to mount a national campaign pouring scorn and derision on this claim, pointing out:

□ that pharmaceutical chemists, who are at least as highly trained in their own field and certainly do not work less hard, are expected to work for half the remuneration even now enjoyed by their medical colleagues;

□ that the claim of the country practitioners, supported by the BMA, to be able to undertake the work of the pharmacist in their area, in addition to their own, makes utter nonsense of any claim to be overworked.

This would seem to be an excellent opportunity to encourage our medical colleagues to see our point of view and to realise the essential weakness of their own case.

S. G. Bubb,
Poole, Dorset

For marking anything

Your contributor E. C. Tenner (August 23, p 162) states that he has difficulty in marking certain containers (I presume made of plastic). I would suggest that he purchases a Chinagraph pencil from his stationer. This will mark on anything including glass and costs 1s.

W. J. H. Ewins,
Abertillery, Mon

Accounts closed

I am in sympathy with "Still Very Resigned" and others. For years I have dealt with two wholesalers who are in point of fact one company. Both deliver in to this town daily. If, due to bad stock keeping on the part of the first one, he is "out of stock" then I call upon the second. This will mean a penalty of £5 as the second account cannot be £150 although the first can be more than £450.

Taken to the ultimate conclusion, due to their falling down on THEIR job, it could cost me £5 2s for a bottle of eye drops. In the words of Sir Winston Churchill: "What kind of people do they think we are?"

I have closed both accounts. Other firms seem pleased enough to share the business.

Ex Camera Principis

Open telegram

Editor. Please forward the following open telegram to Messrs Blum, Burke-Jones and Millward.

Having a wonderful time. Wish you were here. M. Gordon, I. Benjamin, M. James, R. Frizzell, A. M. Jones, C. Howells, R. Mills.

British Pharmaceutical Conference,
Belfast

Legal report

Chemist fined for DDA offences

Fines totalling £100 were imposed by Bradford magistrates on Leslie Sharp, chemist, Clara Drive, Calverley on August 27. Mr Sharp who has a pharmacy in Great Horton Road, Bradford pleaded guilty to not entering in the Dangerous Drugs register in chronological sequence particulars of 60 Dromoran tablets — obtained by him and of 50 similar tablets supplied by him, and he asked for eight other offences to be considered relating to 1,050 tablets of Palifium that he had obtained.

For the prosecution, it was said that a check of Sharp's register regarding a particular drug disclosed a six year gap.

Mr Richard Wilson for Mr Sharp said the offences came to light as a result of police inquiries relating to a doctor. He said previous inspections had been made without complaint and it was a technical matter due to his client's carelessness.

A police officer said the authorities were satisfied that all the tablets had been issued lawfully.

Imposing the fines the chairman, Mr Ernest Marriott, said "Nobody more than you should realise what a serious matter this is, and it appears to have been caused by sheer carelessness."

Pharmacist rescued, dies afterwards

A 35-year-old pharmacist, Kenneth Roper, Bank End Lane, Almondbury, Huddersfield, whose pharmacy was at Southey Avenue, Longley, Sheffield, was said at a Barnsley inquest on August 18 to have taken an overdose of pethidine. He might have taken as many as 100 tablets.

The West Riding coroner recorded a verdict of suicide in a depressed state of mind.

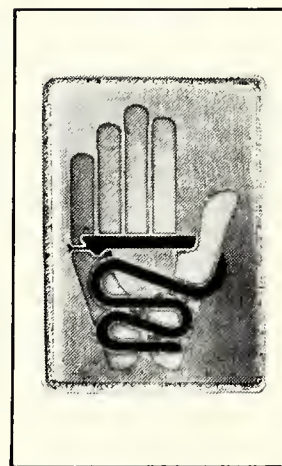
Roper had been rescued from the Howbrook Dam, High Green, but later died in hospital.

A pathologist said that the cause of death was aspiration pneumonia following immersion in water together with pethidine poisoning.

Mrs Roper said that she found a letter on the sideboard at their home in her husband's handwriting.

She agreed with the coroner that the letter was in terms suggesting an intention on her husband's part to take his life.

BRITISH PHARMACEUTICAL CONFERENCE BELFAST '69



Pharmacists' problems shared, says president

Two measures that at first sight might seem unpalatable to British pharmacists were necessary to ensure their economic viability, said the Conference president and president of the Pharmaceutical Society of Great Britain, Mr. Albert Howells, when he opened the 1969 meetings of the Conference on Monday.

First of those measures was a complete national network of pharmacies, which would involve control over their siting. Second was an incentive payment to attract pharmacists to areas that could not offer them economic viability.

The problems encountered by pharmacists were often the same on both sides of the channel. That was illustrated by the recent recommendations of a Northern Ireland Government report for the limitation of the number of pharmacies in the province, and for a rationalisation of their distribution—two recommendations that might well be regarded as the essential pillars of a planned pharmaceutical service.

In Britain the need for a planned pharmaceutical service was becoming more and more apparent. It could no longer be regarded as tolerable that the availability of a pharmaceutical service in an area should have to depend upon an individual pharmacist's assessment of the economic prospects there.

A complete national network of pharmacies would mean control of their siting; and an incentive payment might be needed to attract pharmacists to areas that could not offer them economic viability. At first sight those two measures might appear unpalatable to British pharmacists who, unlike their colleagues in several European countries, had been taught to survive in complete independence.

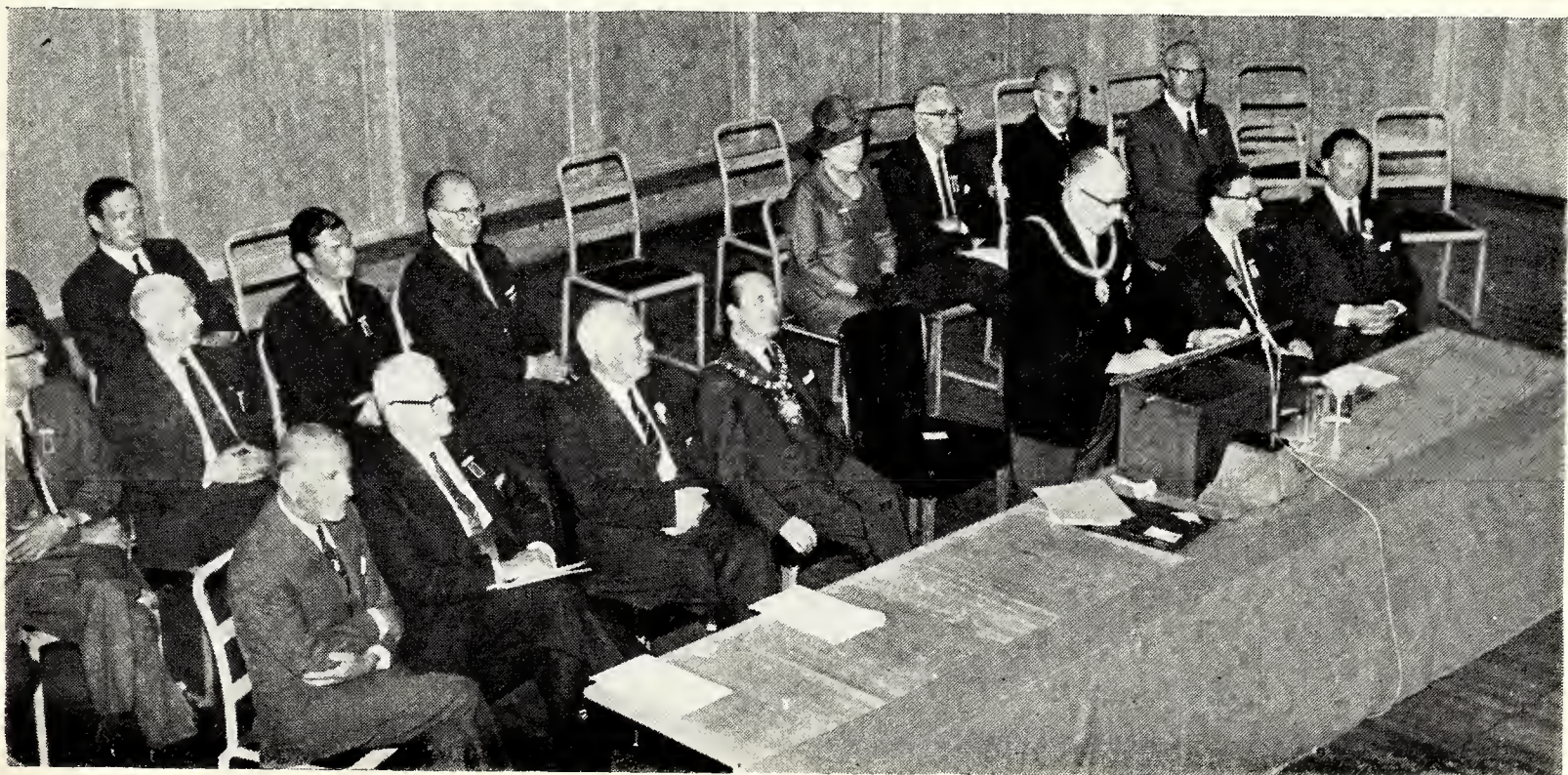
The perils of the pharmacist's independent state were multiplying. The number of pharmacies in Britain at the end of 1968 was the lowest for at least 30 years. In the first six months of 1969, 351 pharmacies had closed, while only 84 had opened—a net loss of 267.

That alarming situation—for the public and for pharmacists—had been produced by economic stress. Who would object if adequate protection could be secured only by accepting some form of control over the siting of pharmacies? To sacrifice absolute independence of decision and action might be to pay but a small price for a professional design that would both guarantee the public access to a vital service and pharmacy a new and much needed economic stability.

Nowadays the pharmacist must compete not only with professional colleagues but with traders untutored in medicines.

While pharmacists were strongly opposed to the supermarkets' dabbling in medicines, at least their motive could be appreciated. To them medicines were no different from soap powders. To them the profit margin was the irresistible attraction. But what justification could doctors plead for their insistence on dispensing prescribed medicines?

In their recent rejection of a draft



agreement that granted the pharmacist his dispensing role, they had surprisingly pleaded their concern for the patients' convenience, ignoring the fact that the draft agreement had been specifically drawn to safeguard the convenience of patients in obtaining their prescribed medicines.

That the medical profession was alone in its opposition to the agreement was confirmed by Mr. Crossman, the Secretary of State for Social Services, whose hope was that it might still be accepted. If that hope, shared by pharmacists, had to be deferred, the only course would be for both professions to examine the problem together and seek a mutually acceptable solution.

The president recalled that the Conference had twice before met in Belfast—in 1898 and 1935. Both conferences had strengthened the concord which Irish and British pharmacists were so proud to share.

Introducing the chairman of the Conference, Dr. E. F. Hersant, Mr. Howells referred to his "distinguished service as joint secretary of the Conference" over a period of no less than 15 years, during which he had gained the respect of all his colleagues.

Welcoming members of the Conference to Belfast, the Lord Mayor (Alderman Joseph Cairns, J.P.) said that they might have thought, judging by recent news reports, that they were coming to Nigeria or the Congo. However, the majority of the citizens were only too anxious to live in peace and harmony with one another. He hoped that it would not be another 34 years before the Conference returned.

Proposing a vote of thanks to Dr. Hersant for his chairman's address, Dr. D. C. Garrett emphasised the shortage of analysts and the complexity of the problems facing them. The future was bleak unless more pharmacists and chemists—pharmacists preferably—took up the work. "The Societies and universities would do well to give more thought to this in formulating their educational policies."



Top—Six from Northern Ireland, Mrs. J. McClenahan (St. Albans), Mr. and Mrs. J. Knox (Belfast), Mr. W. J. Moffett (Belfast), Mrs. W. Gorman (Belfast), Mrs. W. J. Moffett. Below left—Mrs. H. Boyd (Belfast) hands a Conference wallet to Prof. A. H. Beckett (London). Below right—Mr. and Mrs. D. A. Hughes and Mr. A. E. Davis, all from Nottingham



The Lord Mayor of Belfast, Ald. J. Cairns, with the presidents of three Pharmaceutical Societies: Messrs. A. Howells (Great Britain), T. R. Miller (Republic of Ireland) and M. Flatley (Northern Ireland)

Absent veterans

The Conference chairman, Dr. Hersant, at the opening session regretted the absence of Mr. H. Humphreys Jones and Dr. T. E. Wallis, veteran Conference members who, now in their nineties, had considered the journey to Belfast too much for them.

Preprints or not?

A lively debate on whether science papers should or should not be preprinted for future Conferences followed the science sessions held on Monday evening.

It was occasioned by a report to the Conference Executive by Professor Brownlee, editor of the *Journal of Pharmacy and Pharmacology*, saying that preprinting might no longer be possible because of difficulties associated with the refereeing, editing, printing, etc., of over 40 science papers in under three months.

Suggestions had been made that authors should be permitted to provide abstracts of their work prior to the Conference, read a summary of their work and offer their paper independently—not necessarily to the *J.P.P.*—either before or after the Conference. Permission to read the paper would then not be accompanied by a guarantee of publication as at present.

The meeting showed itself strongly in favour of retaining the *status quo* if at all possible. Suggestions were made for

an increase in *J.F.P.* staff, an earlier submission date for papers, circulation of photo copies of "unedited" versions of authors' texts, and refereeing by the science committee to be established under the proposed new Conference constitution.

Professor Beckett said that a cut-and-dried paper left little room for discussion. A function of the Conference might be to trigger ideas on a paper that could be incorporated in it for later publication.

Professor Elworthy, on the other hand, felt that papers needed to be studied in depth for such a multi-disciplinary Conference. He would prefer "unedited" versions.

After Professor A. M. Cook had complained that the problem had been left so long before being discussed, Dr. Lees (secretary) and Dr. Hersant (chairman) agreed that they had the feeling of the meeting sufficiently to report back to the Executive.



Top—Members assemble for the Sunday afternoon bus tour of Belfast. Story overleaf. Middle left—Two from Canada, Mrs and Professor J. A. Wood with Dr W. E. Court (Aughton), Mr and Mrs P. A. Linley (Bradford). Right—Members who attended Roman Catholic Mass at Aquina's Hall on Sunday evening. In the group are Father Noel Fitzpatrick, Ph.C., and Father Conway, the president of the Pharmaceutical Society of Northern Ireland, Mr B. Flatley and Mrs Flatley and the chairman of the National Pharmaceutical Union, Mr J. Reed, and his sister Miss M. E. Reed. Foot left and centre—Irish Night; violinist and vocalist of Eddie Fagan's band; and Ulster's Dairy Queen with Mr Harry Boyd and Mr H. W. Gamble. Right—High tea at Queen's Elms hall of residence.

CONFERENCE CHAIRMAN'S ADDRESS

Drug standards for the future [abstract]



Dr E. F. Hersant

The British Pharmacopoeia has been undermined in importance as a book of standards by the forthcoming publication of the first volume of the European Pharmacopoeia.

For the Medicines Act requires medical products to comply with European Pharmacopoeia standards even though there may be monographs for those substances in the B.P.

However, certain participating national representatives on the European Pharmacopoeia Commission are reluctant to see patented drugs and their preparations included in a pharmacopoeia, whether national or international.

From the very nature of a book requiring international co-operation in its compilation the European Pharmacopoeia must inevitably be less up to date than a national pharmacopoeia. Under present conditions a monograph on a new drug is therefore likely to appear in the British Pharmacopoeia some years before the European Pharmacopoeia monograph would be published.

Since the official methods of analysis for substances included in it will be those of the European Pharmacopoeia, consideration should be given, in my view, to abandoning general methods in the B.P. except where no such method appears in the European Pharmacopoeia.

Certainly it would be far more convenient for British analytical laboratories to use only one method and one type of, for example, boiling-point or melting-point apparatus than to be obliged to

use a different method for the decreasing number of substances that will be in the British but not in the European Pharmacopoeia.

It has always appeared illogical that, in the United Kingdom, a Pharmacopoeia—a book of official standards and methods—should be published by the General Medical Council, while another book, the British Pharmaceutical Codex, published by another statutory body, the Pharmaceutical Society of Great Britain, also sets standards, generally regarded as having an official status, for a number of other commonly used drugs.

Since the B.P.C. and B.Vet.C. are among the "specified publications" listed in the Medicines Act, it would seem natural to present the standards for all drugs and their preparations at present in those works in a more embracing British Pharmacopoeia or in a compendium prepared in accordance with the Act.

I am not implying that the B.P.C. and B.Vet.C. should not continue to be published by the Pharmaceutical Society of Great Britain, but suggesting that in future they should not prescribe standards.

The number of cases will increase rapidly in which a B.P. or B.P.C. monograph deals with a product already the subject of a submission to the Committee on Safety of Drugs. Information supplied to that Committee is considerably more extensive than what has been available in the past to the committee responsible for the Pharmacopoeia monographs. But it is confidential and therefore not passed on to the pharmacopoeial committee.

A detailed and searching specification will certainly be demanded in the future before a product licence is issued, but it is not apparent in the Medicines Act whether that information will automatically be made available to the new pharmacopoeia committee.

For those materials for which product licences have been issued a difficult situation would arise if the pharmacopoeial specification published were less stringent than the one submitted and approved for the licence, though no corresponding difficulties would arise in the reverse sense. A manufacturer who has submitted a detailed specification to the licensing authority might not, for sound and legitimate reasons, wish all that information to be published in the pharmacopoeial monograph and thus made available to an actual or potential competitor. He might, for example,

prescribe in his submitted specification a stringent limit for a harmless impurity that was, in slight amount, affecting the elegance of his presentation—knowledge which, so far as he was concerned, was an important "trade secret." Omission of that test in the Pharmacopoeia would not affect the safety of the product.

More likely a manufacturer would object to publication of a limit test for a catalyst or an intermediate, since it might reveal the manufacturing route employed. Provided the specification in the Pharmacopoeia was otherwise comprehensive and satisfactory, the omission of tests for impurities peculiar to the method of a single manufacturer would be of small import, since the manufacturer's records would be available to the Medicines Commission inspectors. But while that would ensure control for materials made in Britain, it would undermine the status and usefulness of the Pharmacopoeia, whose monographs would no longer provide a complete standard and safeguard for the quality of the drugs listed therein.

More consideration will undoubtedly be given in future to impurities present owing to the incomplete elimination from the final product of raw materials, reactants and intermediates. The permitted limits will be coupled with a consideration of their toxicity and the dosage volume and frequency of administration of the drug. Specifications for all raw materials used in the chemical synthesis are likely to be required. If any contain a toxic impurity a test may well have to be specified for the final product in order to determine that the impurity has been eliminated during synthesis.

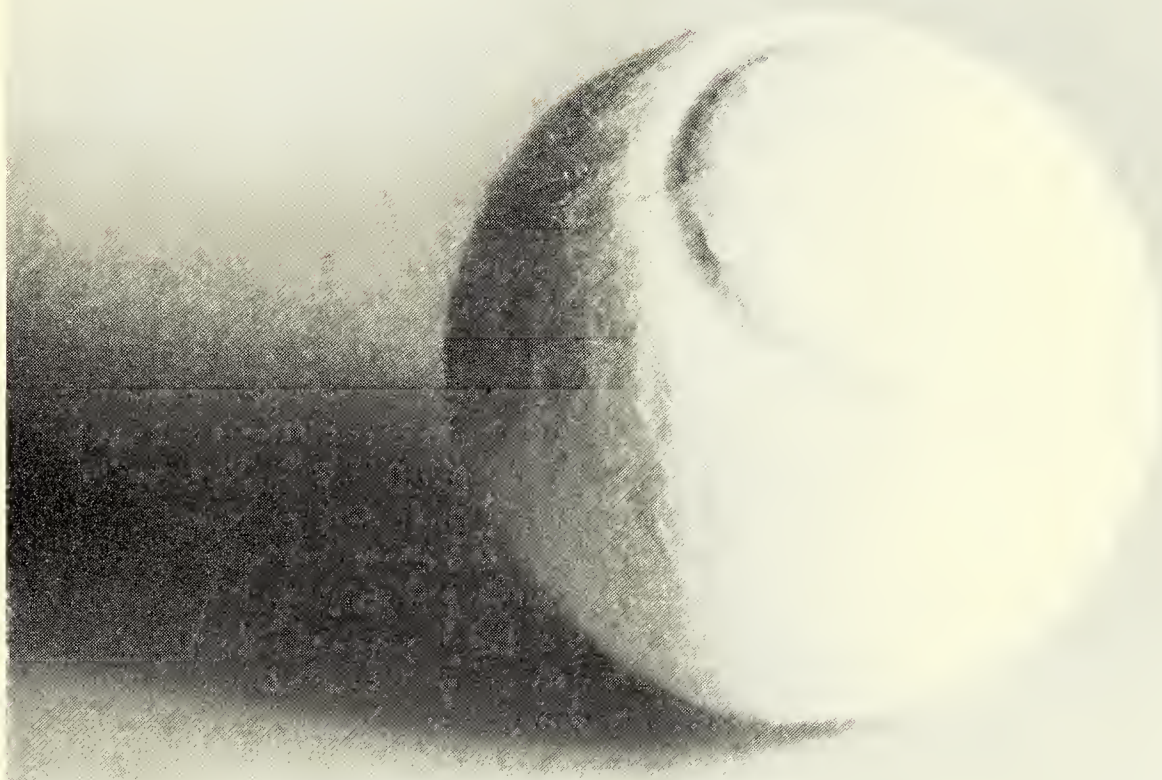
Limit tests will be required for intermediates arising during synthesis as well as for by-products that may occur in the final stages, and consideration will have to be given to possible changes on storage.

The search for such impurities will undoubtedly involve more refined and sophisticated techniques than are included in most existing monographs.

In most specifications for organic compounds a requirement regarding an infra-red spectrum will undoubtedly appear.

Evidence is accumulating that, for certain relatively insoluble substances, crystalline form may, in addition to particle size, modify the action, particularly in rapidity or duration. No doubt more attention will be paid to those factors in the future, since they

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WEEKLY PRICE CHANGES AND NEW PRODUCT ADDITIONS

Trade prices are given per dozen. Bold upright figures (2 9) in the retail column indicate the price is subject to retail price maintenance. Italic figures (2 9) are manufacturer's recommended price. Light upright figures (2 9) are a suggested guide.

A=Price Advanced. R=Price Reduced. ●=New entry. D=Delete. C=Correction. /=Insert.

Trade Tax Retail					Trade Tax Retail					Trade Tax Retail									
Achromycin (746 Lederle)					R88	62	0ea	33	3ea	129	0	Dunlop (396 DC)							
ophthalmic oil					R31	98	6ea	52	10ea	205	0	hot water bottles							
suspension 6ml					R21	133	0ea	71	4ea	276	0	Colslime	76	0	—	9	6		
Agfa (16 AGL)					R10	178	3ea	95	7ea	370	3	Cosimax	29	1ea	—	37	4		
films black and white					R1	237	0ea	127	1ea	492	9	Deep Sleep	24	3ea	—	31	4		
Isopan 126 20 exp.		3	9ea	2	1ea	7	5					Flag	69	0	—	8	8		
Isopan Record roll 120		—	—	—	—	—	—					Golliwog	90	0	—	11	3		
Agfacolor (16 AGL)					R240	50	0ea	26	10ea	104	0	Quiltee	105	0	—	13	2		
negative film CNS					R141	26	7ea	14	3ea	55	3	Renown	81	0	—	10	2		
standard cassette					PR1	14	2ea	7	7ea	29	6	Symbol	64	0	—	8	0		
35mm 12exp		5	0ea	2	9ea	8	11					house gloves	42	0	5	4	5	9	
reversal film CT18					R7	26	0ea	13	11ea	54	0	Duobac (1413 P & 5) T5							
126 cartridge 20exp		15	1ea	4	11ea	74	0					Eade's (67 Ashe) ts4B							
Agfalux (16 AGL) existing entry					R6	42	9ea	22	11ea	88	9	pills	60	65	7	23	5	10	0
Agfalux (16 AGL)					R5	65	6ea	35	1ea	136	3	120	101	0	36	0	15	0	
flashgun KM		54	10ea	30	2ea	114	7					Easifix (1160 Solport)							
CK & CM		34	7ea	19	0ea	82	3					finger stalls leather small	10	0	—	1	3		
Agfascop (16 AGL)					R107	29	0ea	15	7ea	60	3	med.	10	6	—	1	4		
viewer 10		48	4ea	26	7ea	100	11					large	11	0	—	1	5		
20		71	7ea	39	4ea	149	6					ex. large	11	9	—	1	6		
Agfatronic (16 AGL)					R117	22	7ea	12	1ea	47	0	ex. ex. large	12	9	—	1	7		
flashguns 160B		139	10ea	76	11ea	292	0					Ekco (411 Ekco) existing entry							
160A		215	10ea	118	9ea	450	10					Ekco (411 Ekco)							
Aidex (339 CG) †					R75	36	3ea	19	5ea	75	3	overblankets electric							
burn and wound cream					R175	24	8ea	13	3ea	51	3	Princess single	—	—	—	239	6		
28g		24	0	—	3	0					double	—	—	—	290	0			
Aludrox (1352 Wyeth)					Chasse Gardee (1469 PC) existing entry					twin					—	—	334	6	
gel .500ml		58	0	—	6	6					underblankets electric								
12oz		—	—	—	—	—					Daphne double	—	—	—	158	0			
Amplex (67 Ashe)					Chasse Gardee (1469 PC)					Delia double					—	—	111	11	
Lady Amplex		45	0	24	1	7	6				Delilah double	—	—	—	139	6			
April Violets (1355 Yardley)					7028	16	10ea	9	0ea	35	0	Juno single	—	—	—	86	8		
perfumed Cologne 1984		73	0	40	2	12	6				Sabrina single	—	—	—	117	4			
perfume 1991		79	0	43	6	13	6				Sophia single	—	—	—	109	6			
perfume 1992		—	—	—	—	—	—				Super Sylvia single	—	—	—	152	6			
Arrid (235 Carteret)					7000	60	3ea	32	4ea	125	0	Super Deana double	—	—	—	187	6		
talcum powder 120 g		30	7	16	10	4	11				Elsan Blue (418 E) †								
Aventyl (413 Lilly) ts4B					7001	86	9ea	46	6ea	180	0	8 charges	58	6	—	6	6		
liquid 450ml		13	2ea	—	19	8					16 charges	92	2	—	10	3			
480ml		—	—	—	—	—					32 charges	148	6	—	16	6			
Bactrian (776 JML)					7728	24	1ea	12	11ea	50	0	Emko (506 Gerhardt)							
cream 50g		24	0	—	3	0					(distributors 430 Eucryl)								
Bantron (366 DR & A)					7729	40	5ea	21	8ea	84	0	(distributors 366 DR & A)							
Bantron (149 Cuticura)					7730	60	8ea	32	6ea	126	0	Eskacillin (1153 SKF) T							
Bauer (1017 Pullin)					Chloromycetin (938 PD) T5					100 100ml 80 0 — 10 0									
electronic flash E.200		—	—	750	0						200 100ml 98 0 — 12 3								
Bisma Calna (211 Butler)					Coeur Joie (936 PNR)					old packs					—	—	—	—	
cream 500ml		48	0	—	6	0					sulpha 100 and 200	—	—	—	—	—	—		
21		15	0ea	—	22	6					Eskornade (1153 SKF) ts7								
Bond Street (1355 Yardley)					A90	26	7ea	14	3ea	55	3	syrup	150ml	72	0	—	9	0	
crystallised Cologne					A88	46	7ea	25	0ea	96	9	4oz	—	—	—	—	—		
2770		64	0	35	2	11	0				Esoban (1166 Southon)								
Bounce (967 Petfoods)					A31	74	0ea	39	8ea	153	6	ointment	1½lb	18	3ea	—	—		
handy		58	4	11	3	1	2				Espace (261 Christy)								
(6doz.)		—	—	—	—	—	—				Ethidol (187 B5)								
large		74	6	14	5	2	3				Evan Williams (437 EW)								
Bourn-Vita (216 Cadbury) existing entry					A12	89	1ea	47	9ea	185	0	Evan Williams (1188 Steiner)							
Bourn-Vita (216 Cadbury)					A6	32	10ea	17	7ea	68	3	shampoos							
1lb		17	5	—	1	8					Farleys (448 Farleys)								
1½lb		31	9	—	3	0					baby dinners and sweets								
1lb		55	4	—	5	9					vegetables and beef,								
Breck (1509 C of GB)					Corega (1178 Stafford)					vegetables beef and									
creme rinse with					denture powder					bone, vegetables									
body		sachet	6	1½	3	4½	1	0			chicken and tomato								
70cc		27	0	14	11	4	5				1½oz 12 3 — 1 4								
Burson (1388 TKC)					Cosette (300 Cosette)					apples and rice, apricot									
distributors 810 Maw)					Cremodiazine (837 M5D) ts4B					pudding, orange and									
Calmic (218 Calmic)					Cymex (1568 Trentham)					lemon pudding, straw-									
ripe mixture 70ml		27	0	10	0	3	10				berry sweet 2oz 12 3 — 1 4								
Capricci (963 PNR) existing entry					Dal-tocol (113 Bencard)					Fille d'Eve (963 PNR) existing entry									
Capricci (936 PNR)					Dellipoids (853 Modkem)					Fille d'Eve (936 PNR)									
creme perfume					D5 rheumatism					perfume									
perfume					D6 analgesic					F90 26 7ea 14 3ea 55 6									
CR3		15	0ea	8	0ea	31	0				F81 34 6ea 18 6ea 72 0								
R90		33	6ea	18	0ea	70	0				F88 46 7ea 25 0ea 96 9								
R81		41	0ea	22	0ea	85	6				F31 74 0ea 39 8ea 153 6								
											F21 127 0ea 68 1ea 264 0								

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		Trade	Tax	Retail	
de luxe	F33	89 1ea	47 9ea	185 0	
toilet water	F7	20 6ea	11 0ea	42 6	
	F6	32 10ea	17 7ea	68 3	
	F5	52 0ea	27 11ea	108 3	
Freesia (1355 Yardley)					
perfume	1891	79 0	43 6	13 6	
perfumed Cologne	1884	73 0	40 2	12 6	
Fresh'n Dainty (506 Gerhardt)					
(distributors 430 Eucryl)					D
(distributors 366 DR & A)					I
Furacin (1153 SKF)					
solution	500ml	28 6ea	—	42 9	
	16oz	—	—	—	D
Furadantin (1153 SKF)					
suspension	150ml	96 0	—	12 0	
	2.1	92 0ea	—	138 0	
	4oz and 80oz	—	—	—	D
Furoxone (1153 SKF)					
suspension	300ml	99 0	36 4	15 5	
	8oz	—	—	—	D
Gucki (16 AGL) existing entry					D
Gucki (16 AGL)					
35mm viewer	6 0ea	3 4ea	12 7	1	
Haematrix (810 Maw)					
ointment	22 4	8 2	3 6		
suppositories	41 0	15 0	6 3		
Halmagon (801 MP)					
	38 6	14 2	5 7		
	115 0	42 2	16 3		
Hedges (590 Hedges) existing entry					D
Hedges (590 Hedges)					I
L.260 snuff	21 6	—	2 2		
	45 6	—	4 5		
	87 0	—	8 3		
Helena Rubinstein (596 HR)					
illumination	—	—	45 0		
luminator	—	—	47 6		
souffle stick	—	—	—		I
Histofax (208 BW)					
cream	17.5g	20 0	7 4	3 1	
Histrion (1367 R & B)					
balm	25g	18 0	6 7	2 10	
	50g	30 0	11 0	4 8	
	75g	42 0	15 5	6 6	
Ilford (645 Ilford)					
cameras					
Compact outfit	37 9ea	20 9ea	77 5		
Universal 50C	38 5ea	21 2ea	78 10		
outfit	50 4ea	27 8ea	99 8		
Universal Flash	40 0ea	22 0ea	82 0		
outfit	51 7ea	28 4ea	100 11		
Ilotycin (413 Lilly) T5					
tablets 250mg	100	62 0ea	—	93 0	
	500	301 6ea	—	452 6	
	1000	591 3ea	—	886 11	
	5000	2895 0ea	—	4342 6	
Indal Finnish Sauna (961 EGP)					
bubble bath	sachets (2)	21 0	7 9	3 0	
	bottle 5oz	6 6ea	2 5ea	13 0	
hair conditioner					
	sachets (2)	18 6	10 2	3 0	
	bottle 5oz	7 1ea	3 11ea	16 0	
shampoo	sachets (2)	21 0	7 9	3 0	
	bottle 30cc	22 6	8 3	3 6	
	6oz	6 6ea	2 5ea	13 0	
soap (1)	4½oz	35 0	12 10	5 6	
(3)	8 9ea	3 3ea	16 6		
presentation drum	20 1ea	8 9ea	42 0		
Iso-Pak (16 AGL)					
flash gun	21 11ea	12 1ea	45 10		I
Iso-Rapid (16 AGL) existing entry					D
Iso-Rapid (16 AGL)					I
camera I	30 7ea	16 10ea	63 11		
outfit without flash	34 7ea	19 0ea	72 2		
with flash	68 6ea	37 8ea	143 1		
camera C	62 10ea	34 7ea	131 3		
outfit	69 9ea	38 4ea	145 9		
outfit IC	60 0ea	33 0ea	124 4		
autotest	74 5ea	40 11ea	155 5		
lady set IC	78 3ea	43 0ea	163 4		
C	89 3ea	49 1ea	186 5		
Isomat-Rapid (16 AGL) existing entry					D
Isomat-Rapid (16 AGL)					I
camera	165 2ea	77 3ea	331 4		
outfit small	186 10ea	87 4ea	374 9		
large	211 4ea	98 10ea	424 0		
camera C	209 3ea	115 1ea	437 0		
case	29 7ea	16 3ea	61 9		
Kemoform (853 Modkem)					
balsam of aniseed	50ml	13 6	4 8	—	D
	3oz	—	—	—	
Lactate-Ringers (413 Lilly)					
solution ampoules	25	200 0ea	—	300 0	
L'Air du Temps (936 PNR) existing entry					D
L'Air du Temps (936 PNR)					I
creme parfume	CB3	12 0ea	6 5ea	25 0	
dusting powder	TB1	30 4ea	16 3ea	63 0	
refill	TB2	17 11ea	9 7ea	37 3	
perfume	B90	26 7ea	14 3ea	55 3	
	B81	34 6ea	18 6ea	72 0	
	B88	46 7ea	25 0ea	96 9	
	B31	74 0ea	39 8ea	153 6	
	B21	127 0ea	68 1ea	264 0	
de luxe	B33	89 1ea	47 9ea	185 0	
	B30	163 6ea	87 8ea	339 9	
atomiser	B240	48 6ea	26 0ea	101 0	
refill	B141	25 0ea	13 5ea	52 0	
sachet	PB1	14 2ea	7 7ea	29 6	
soap (3)	SB1	13 9ea	4 11ea	26 3	

		Trade	Tax	Retail	
sparkling bath oil	MB3	16 9ea	6 0ea	31 9	
talcum	TB3	11 4ea	6 1ea	23 6	
toilet water	B7	20 6ea	11 0ea	42 6	
	B6	32 10ea	17 7ea	68 3	
	B5	52 0ea	27 11ea	108 3	
atomiser	B106	39 6ea	21 2ea	82 0	
	B107	26 10ea	14 5ea	55 9	
refill	B117	20 11ea	11 3ea	43 6	
airomatic spray	B75	32 10ea	17 7ea	68 6	
refill	B175	21 0ea	11 3ea	43 9	
Leucovorin (746 Lederle)					
ampoules 3mg/ml	6	38 4ea	—	57 6	
Luma (801 MP)					
compound	trial	19 6	7 2	3 0	
	medium	42 6	15 7	6 6	
	large	51 9	19 0	8 0	
	family	66 6	24 5	10 6	
cubes	47 6	17 5	9		
	(lgross)	(lgross)			
Lusty's (781 Lusty)					
kelp powder	4oz	24 0	—	3 0	
	8oz	38 0	—	4 9	
tablets	150	32 0	—	4 0	
	500	80 0	—	10 0	
	1000	13 0ea	—	19 0	
tablets malted	100	27 0	—	3 4	
	250	53 0	—	6 8	
	750	12 6ea	—	18 9	
capsules	24	24 0	—	3 0	
	84	66 0	—	8 3	
Lydrin (211 Butler)					I
500ml	138 0	—	16 0		
	2.1	40 0ea	—	60 0	
	16oz and 80oz	—	—	—	D
Mademoiselle Ricci (936 PNR) existing entry					D
Mademoiselle Ricci (936 PNR)					
creme parfume	CE3	12 0ea	6 5ea	25 0	
perfume leger	E110	28 0ea	15 0ea	58 6	
soap	SE1	13 9ea	4 11ea	26 6	
talcum	TE3	11 4ea	6 1ea	23 3	
toilet water	E7	18 9ea	10 1ea	39 0	
	E6	30 9ea	16 6ea	64 3	
	E5	50 6ea	27 1ea	104 9	
atomiser	E107	26 7ea	14 3ea	55 3	
	E75	32 10ea	17 7ea	68 6	
refill	E175	22 7ea	12 1ea	47 0	
Ma Griffe (1469 PC) existing entry					D
Ma Griffe (1469 PC)					I
bath oil	4843	28 11ea	15 6ea	60 0	
Cologne	2oz	8028	16 10ea	9 0ea	35 0
	4oz	8029	27 8ea	14 10ea	57 6
	8oz	8030	48 2ea	25 10ea	100 0
	14oz	8031	86 9ea	46 6ea	180 0
	26oz	8032	135 9ea	72 10ea	282 0
	8022	28 11ea	15 6ea	60 0	
spray	4810	20 3ea	10 10ea	42 0	
dusting powder	4804	14 5ea	7 9ea	30 0	
perfume cream	4829	13 2ea	4 8ea	25 0	
mousse douce	8040	20 3ea	10 10ea	42 0	
perfume	8042	24 4ea	13 1ea	50 6	
	8044	31 3ea	16 9ea	65 0	
	8045	40 5ea	21 8ea	84 0	
	8000	60 3ea	32 4ea	125 0	
	8046	74 6ea	39 11ea	155 0	
	8001	86 9ea	46 6ea	180 0	
	8002	137 0ea	73 6ea	285 0	
	8003	211 7ea	113 6ea	440 0	
	8074	43 4ea	23 3ea	90 0	
	8075	40 5ea	21 8ea	84 0	
soap cartoned	4851B	6 1ea	2 2ea	11 0	
	4856	8 10ea	3 2ea	16 0	
	4811	9 7ea	5 2ea	20 0	
talcum 90g	8728	24 1ea	12 11ea	50 0	
toilet perfume	4oz	8729	40 5ea	21 8ea	84 0
	8oz	8730	60 8ea	32 6ea	126 0
atomiser	8025	20 3ea	10 10ea	42 0	
	8026	43 4ea	23 3ea	90 0	
velvet foam bath	4848	24 4ea	13 1ea	50 6	
Mary Quant (876 MP)					
cake liner	55 3	30 5	9 11		
old pack	—	—	—	—	D
eyes off	48 9	26 10	8 9		
lashes 'bird feathers'	153 2	84 2	27 6		
liquid liner	55 3	30 5	9 11		
waterproof liner	—	—	—	—	D
Maws (810 Maw)					
Nappi pants	20 0	—	2 6		
Tuffy Tail pads	10	20 0	—	2 1	I
newborn	12	—	—	—	D
K.L.N. suspension					
337.05	16 2	5 11	2 6		
Surgical dressings					
bandages B.P.C.					
1in x 4yd	110.18	3 9	—	6	
2in x 4yd	110.02	6 2	—	9	
3in x 4yd	110.04	8 7	—	1 1	
4in x 4yd	110.19	11 1	—	1 5	
crepe 2in	141.00	23 5	—	2 11	
	2½in	141.01	28 3	—	3 6
	3in	141.02	33 9	—	4 2
	3½in	141.03	38 8	—	4 10
	4in	141.04	44 1	—	5 6
	6in	141.05	65 5	—	8 2
cellulose tissue	147.01	56 0	—	7 0	
cotton wool B.P.C.					
½oz	100.00	6 3	—	9	
1oz	102.01	8 6	—	1 1	
4oz	102.03	24 0	—	3 0	
16oz	102.05	80 0	—	10 0	

		Trade	Tax	Retail	
hospital quality					
1oz	102.07	7 3	—	11	
4oz	102.09	19 0	—	2 5	
16oz	102.11	60 0	—	7 6	
gamgee pink label					
4oz	146.09	23 3	—	2 7	
16oz	146.11	78 0	—	8 8	
blue label					
4oz	146.12	27 0	—	6 0	
16oz	146.14	93 0	—	10 4	
gauze B.P.C.					
1yd	137.02	12 7	—	1 7	
3yd	137.03	27 9	—	3 8	
6yd	137.04	50 8	—	6 4	
12yd	137.05	98 3	—	12 3	
unsterilised rolls					
100yd	125.05	62 10ea	—	94 6	
25yd	125.06	16 1ea	—	24 2	
lint B.P.C.					
plain					
½oz	120.00	8 5	—	1 1	
1oz	135.01	12 11	—	1 7	
4oz	135.03	41 6	—	5 2	
16oz	135.05	150 0	—	18 9	
boric					
½oz	143.00	8 9	—	1 1	
1oz	134.07	13 8	—	1 9	
4oz	143.09	44 6	—	5 7	
16oz	143.05	161 0	—	20 1	
multiple pack dressings					
No. 1	148.00	37 6	—	4 8	
No. 2	148.01	76 3	—	9 6	
Mennen (525 Golden)					
shave creams					
lather/menthol					
brushless/menthol 70g	23 2	8 6		3 4	
old packs	—	—		—	D
Metomsustoc (972 Pharnax)					D
Miners (876 MP)					
frosted powder shadows	17 5	9 7		3 0	
stick shadows	17 5	9 7		3 0	
Minims (1154 5NP)					D
Minolta (667 JCL)					
camera cine 8mm					
Autopak 8-K7	—	—	—	2399 6	
8-K11	—	—	—	3199 6	
cameras instant load					
16-P5 kit	—	—	—	420 0	
Autopak 550	—	—	—	659 0	
Autopak 800	—	—	—	1059 0	
500 and 700	—	—	—	—	D
projectors					
Autodual 8	—	—	—	1319 6	
Auto Dial 8	—	—	—	—	D
Super-8	—	—	—	—	D
viewer 16	—	—	—	—	D
Mitchum (1520 IPM) existing entry					D
Mitchum (1520 IPM)					
anti-perspirant					
cream	26	6ea	9 8ea	45 0	
liquid	26	6ea	9 8ea	45 0	
Esoterica cream					
original	18	6ea	10 2ea	35 0	
facial	18	6ea	10 2ea	35 0	
fortified	26	0ea	14 3ea	49 0	
Movex (16 AGL) existing entry					D
Movex (16 AGL)					I
cine equipment					
auto outfit S	small 351	1ea 167	1ea 698	8	
	large 425	8ea 199	1ea 844	3	
auto outfit 5V	488	8ea 235	2ea 978	5	
Mucaine (1352 Wyeth) †s4B					
suspension	500ml 8	6ea	—	11 4	
	12oz —	—	—	—	D
Neuro Phosphates (1153.5KF) †					
	300ml 54	0	19 9	8 5	
	21 29	0ea	—	43 6	
8oz and 80oz	—	—	—	—	D
Nonad Tulle (34 A & H)					
2×2in	36	28 7	—	3 8	
4×4in	10	28 7	—	3 8	
	36	52 2	—	6 8	
6×6in	36	95 0	—	11 11	
4in×8yd strip		77 0	—	9 8	
Novobiocin (147 Boots) T5					
mixture	100ml 21	7½ea	—	32 6	
Old Spice (1131 Shulton)					
Burley Cologne	3120	130 0	69 9	22 6	
talcum	3140	95 5	52 6	16 6	
hair cream	3139	56 3	30 11	9 9	
Optima (16 AGL)					
camera Rapid 125C	274	5ea 150	11ea 620	0	I
	125V —	—	—	—	D
camera 5005N	—	—	—	—	
Or-Lem (918 Or-Lem)					
low calorie blackcurrant					
drink 26oz	—	—	—	2 9	
Sun Real whole orange					
or lemon	—	—	—	2 2	
Oxycel (938 PD)					
pad	11	0ea	—	16 6	
Parstelin (1153 SKF)					
elixir	—	—	—	—	D
Phensic (104 BP)					
tablets	100	66 5	24 4	9 2	
Phosferine (1082 RKO)					
tonic wine ½ bott.	161	6	—	8 11	
	(2 doz)	151 9	—	17 0	
bott.	—	—	—	—	

manufactured from
licensed material


CO-CAP TETRA
250

Each capsule contains 250 mg Tetracycline H.Cl. BP 24/- per 100 (Basic NHS) **10% Discount** when ordered direct from CO-CAPS 361 Lillie Road London SW6 Telephone 01-370 4664 (reverse charge)

										Trade				Tax				Retail														Trade				Tax				Retail																																																																																																																									
Pierre Cardin (1131 Shulton) existing entry																				D		Sanoid (339 CG)																																																																																																																																											
Pierre Cardin (1131 Shulton)																				I		baby powder																																																																																																																																											
2oz																				22	10ea	12	3ea	47	6	114g																				16	7	6	1	2	7	Veganin (1310 WW) †DDI																																																																																																													
eau de toilette																				4oz	38	6ea	20	8ea	80	0	270g																				29	0	10	8	4	6	tablets																				10	15	0	5	6	2	4																																																																																		
8oz																				57	10ea	31	0ea	120	0	170g																				16	0	8	10	2	9	20																				24	5	8	11	3	7																																																																																				
perfume																				4oz	31	3ea	16	9ea	65	0																					46																				0	—	5	9	50																				47	2	17	4	6	11																																																																	
3oz																				57	10ea	31	0ea	120	0																					—																				—																				—																				D																																																							
1oz																				86	9ea	46	6ea	180	0																					—																				—																				—																				D																																																							
Blue Marine																																								Sister Lauras (1146 SL)																																																																																																																									
eau de toilette																				2oz	20	3ea	10	10ea	42	0	food																				16oz																				D																																																																																														
4oz																				31	3ea	16	9ea	65	0																					Sovol (235 Carteret)																																																																																																																			
8oz																				50	7ea	27	2ea	105	0																					liquid																				4oz	41	10	15	4	5	11																																																																																									
Pifco (983 Pifco)																																								Stecsolin (1176 Squibb) T5																																																																																																																									
facial sauna																				1560	74	6ea	26	8ea	126	0	tablets																				100	24	0ea	—	36	0																																																																																																													
hair dryers																																								Stelazine (1153 SKF) †s48																																																																																																																									
Go-Girl																				1170	51	9ea	18	6ea	87	6	concentrate																				100ml	34	0ea	—	—																																																																																																														
trio																				1970	58	10ea	21	0ea	99	6	syrop																				200ml	90	0	—	11	3																																																																																																													
Princess																				1060	57	8ea	20	7ea	97	6	4oz and 8oz																				—	—	—	—																																																																																																															
ensemble																				1960	90	2ea	32	3ea	152	6																					Takazyma (938 PD)																																																																																																																		
beauty outfit																				1962	81	4ea	29	1ea	137	6																					lozenges																				30	30	0	11	0	4	8																																																																																								
queen curl roller																																								100																				78	0	29	0	12	2																																																																																																
set																				IS55	118	0ea	42	2ea	199	6																					1000																				55	0ea	20	2ea	102	8																																																																																									
fra-red lamp																				1027	—	—	—	—	—																					Tampax (1211 Tampax)																																																																																																																			
prince shaver																				1127	—	—	—	—	—																					regular																				10	22	10	—	2	6																																																																																										
Polaroid (989 Polaroid)																																								40																				80	0	—	8	9																																																																																																	
bi-goggles																				52	8ea	—	—	79	0																					10																				25	2	—	2	9																																																																																											
polyset (721 LC)																																								40																				88	5	—	9	8																																																																																																	
ear bottle																				70cc	28	3	15	6	4	9																					Tetracyn (969 Pfizer) T5																																																																																																																		
ortia (1160 Solport)																																								syrop																				500ml	25	6ea	—	38	3																																																																																																
by balances																				D54	84	0	—	10	6																					16 oz																				—	—	—																																																																																													
outfit																				D60	144	0	—	18	0																					Therazid (1154 SNP) TS																																																																																																																			
ustic pencils																				15	0	—	1	11																					powders																				500	186	0ea	—	279	0																																																																																											
e bath plastic																				4	0	—	6	7																					Thermoid (339 CG)																																																																																																																				
oil brush																				8518	27	0	9	11	4	0																					cream																				42g	22	6	8	3	3	6																																																																																								
lastic nipple shields																				8519	20	0	7	4	3	2																					Thio-Tepa (746 Lederle)																																																																																																																		
imice stone (mouse)																				9	0	—	1	2																					parenteral vial																				15mg	17	4ea	—	26	0																																																																																											
ulk																				9	8	5	6	1	8																					Three vital (1160 Solport)																																																																																																																			
lyptic pencils																				DI660C	4	0	1	6	8																					smog mask																				26	6	—	3	4																																																																																											
arded 3"																				DI663C	6	0	2	2	11																					refills (6)																				11	6	—	1	4																																																																																											
our un Homme (1071 Robins)																																								composite pack																				38	0	—	4	8																																																																																																	
cum																				120g	9	6ea	5	3ea	19	6																					Tried & True (813 MF)																																																																																																																		
ro-Plus (67 Ashe)																																								protein conditioner tube																				45	4	24	11	7	8																																																																																																
plets																				18	22	0	—	2	9																					jar																				87	4	48	1	14	9																																																																																										
adian (1023 Radiol)																																								Trill (967 Petfoods)																																																																																																																									
th salts																				450g	34	0	12	5	5	0																					large																				38	5	7	5	2	4																																																																																									
ld packs																																								Tully (16 AGL)																																																																																																																									
emington (1044 R)																																								flashgun K & M																				42	7ea	23	5ea	88	11																																																																																																
avers																																								Turns (S06 Gerhardt)																																																																																																																									
00 de luxe																																								(distributors 430 Eucryl)																																								D																																																																																	
T battery model																																								(distributors 366 DR & A)																																								I																																																																																	
cotiv (211 Butler) †																																								Tusana (147 Boots) cough linctus																																								D																																																																																	
500ml																				96	0	—	12	0	I																					Varidase (746 Lederle) TS																																																																																																																			
21																				43	6ea	—	65	3																					topical 125,000 units																				34	4ea	—	51	6																																																																																												
16oz and 80oz																																																																																																																																																																	
be d'un Soir (1469 PC) existing entry																																								Trill (967 Petfoods)																																																																																																																									
be d'un Soir (1469 PC)																																								large																				38	5	7	5	2	4																																																																																																
th oil																				4943	32	6ea	17	5ea	67	6																					Tully (16 AGL)																																																																																																																		
logne																				9028	20	3ea	10	10ea	42	0																					flashgun K & M																				42	7ea	23	5ea	88	11																																																																																									
																				9029	36	1ea	19	4ea	75	0																					Turns (S06 Gerhardt)																																																																																																																		
																				9030	55	4ea	29	8ea	115	0																					(distributors 430 Eucryl)																																																																																																																		
																				9022	33	8ea	18	1ea	70	0																					(distributors 366 DR & A)																																																																																																																		
																				4910	22	10ea	12	3ea	47	6																					Tusana (147 Boots) cough linctus																																																																																																																		
																				4904	18	1ea	9	8ea	37	6																					Varidase (746 Lederle) TS																																																																																																																		
																				9046	91	0ea	48	10ea	189	0																					topical 125,000 units																				34	4ea	—	51	6																																																																																										
																				9045	50	7ea	27	2ea	105	0																																																																																																																																							
																				9042	32	6ea	17	5ea	67	6																																																																																																																																							
																				9044	36	1ea	19	4ea	75	0																																																																																																																																							
																				9000	70	10ea	38	0ea	147	0																																																																																																																																							
																				9001	101	2ea	54	3ea	210	0																																																																																																																																							
																				9002	161	11ea	86	10ea	336	0																																																																																																																																							
																				9003	250	0ea	134	1ea	520	0																																																																																																																																							
																				9040	27	8ea	14	10ea	57	6																																																																																																																																							
																				9074	43	4ea	23	3ea	90	0																																																																																																																																							
																				9075	40	5ea	21	8ea	84	0																																																																																																																																							
																				4911	11	4ea	6	1ea	23	6																																																																																																																																							
																				9728	28	11ea	15	6ea	60	0																																																																																																																																							
																				9729	48	2ea	25	10ea	100	0																																																																																																																																							
																				9730	77	1ea	41	4ea	160	0																																																																																																																																							
																				9025	24	4ea	13	1ea	50	6																																																																																																																																							
																				9026	50	7ea	27	2ea	105	0																																																																																																																																							
b-a-Dub (1160 Solport) existing entry																																								10 Hour (333 Cupal)																																																																																																																									
b-a-Dub (1160 Solport)																																								mixture																				21	9	7	2	3	6	A																																																																																															
th gloves																																								Astral (333 Cupal)																																																																																																																									
ofah and turco																				50	0	6	8	6	8																					general purpose blocks																																																																																																																			
ofah both sides																				73	6	26	4	11	6																					junior																																																																																																																			
natogen (1530 Fisons)																																								double action toilet block																																																																																																																									
ected multivitamins45																				89	3	—	9	11																					Binasin (333 Cupal)																				23	6	7	9	3	6	R																																																																																										
																																								Blendrite (888 Newey)																																																																																																																									
																																								hairgrips cushion grip																				6	4	2	4	1	0																																																																																																
																																								British No. 3 (184 Bronco)																																																																																																																									
																																								British No. 3 (189 BT)																																																																																																																									
																																								Bronco (184 Bronco)																																																																																																																									
																																								Bronco (189 BT)																																																																																																																									
																																								Codis (1037 Reckitt) †DDI																																																																																																																									
																																								tablets																				500	28	0ea	—	—																																																																																																	
																																								Colistol (328 CCC)																																																																																																																									
																																								piglet doser																				450ml	30	0ea	—	45	0	I																																																																																															
																																								Colivac (328 CCC)																																																																																																																									
																																								vet.																				100ml	30	0ea	—	45	0	I																																																																																															
																																								Crazy Foam (1221 Thawpit)																																																																																																																									
																																								Cupal (333 Cupal)																																																																																																																									
																																								blood mixture No. 20																																																																																																																									
																																								iodised																				6oz	23	6	7	9	3	6	A																																																																																														
																																								burn aid cream																																																																																																																									
																																								cherry bark cough																																																																																																																									

	Trade	Tax	Retail
7 lb	126 0	—	17 6
28 lb	28 9ea	—	48 0
56 lb	57 0ea	—	95 0
Dimyrlil (1530 Fisons)			
pastilles †			I
Dixcel (184 Bronco)			D
Dixcel (189 BT)			I
Doidy (122 Bickiepegs)			
cups	27 7	3 8	3 9 R
Duphalac (324 Crookes)			R
syrup	200ml 17 8ea	—	26 6
2 l	159 0ea	—	
Erycen (117 BPL)			
tablets	500 294 0ea	—	441 0 ●
Eve (888 Newey)			I
hairgrips	5 3	1 11	10 A
Felix (455 Felix)			
cat food	—	—	1 9
Fernico (333 Cupal)	26 3	—	3 9
Glaxo (518 Glaxo)			
vaccines			
diphtheria tetanus F.T.			D
diphtheria tetanus			D
poliomyelitis inactivated			D
poliomyelitis inactivated			D
tetanus F.T.			D
Glenrol (184 Bronco)			D
Glenrol (189 BT)			I
Kaykill (683 Kay) existing entry			D
Kaykill (1068 Roberts)			I
rodenticide	3 1/2 oz 11 5	—	1 6
12oz	29 3	—	3 9
Kemithal (649 ICI)			D
Lavato (184 Bronco)			D
Lavato (189 BT)			I
Lem-Sip (1037 Reckitt)			●
cold remedy	27 5	9 4	3 11
Mastop (328 CCC)			I
vet.	1gal. 33 4ea	—	50 0
5gal	153 4ea	—	230 0
Meltus (333 Cupal)			
adult cough mixture	4oz 26 0	8 7	3 11 R
8oz	39 3	12 11	5 11
junior	3oz 24 3	8 0	3 6 A
6oz	34 9	11 5	5 3 R
Miners (876 MP)			
super sleek wigs	66 0ea	—	99 0 ●
Mogadon (1074 Roche) †s4B			
capsules	100 22 0ea	—	33 0 ●
500	88 0ea	—	132 0
Nazotarr (333 Cupal)			A
inhalant	1/2 oz 13 9	4 6	2 3
Pied Piper (506 Gerhardt) existing entry			D
Pied Piper (506 Gerhardt)			
(distributors 430 Eucryl)			
for mice	10 9	—	1 6
19 9	—	—	2 9
Rayolast (1305 WB)			A
bandages	2in 34 0	—	3 10
3in	46 0	—	5 2
4in	58 0	—	6 5
6in	81 0	—	9 0

	Trade	Tax	Retail
double length	3in 83 0	—	9 3
4in	107 0	—	11 10
6in	153 0	—	17 0
Red Ring (333 Cupal)			A
chillie paste	2oz 16 4	5 4	2 6
Regulettis (333 Cupal)			A
laxative tablets			
carton	30 18 9	6 2	2 11
tin	12 9 11	3 4	1 8
36 18 9	6 2	2 11	
Rimactane (262 CIBA) TS			
capsules 150mg	25 84 0ea	—	126 0 ●
100 305 7ea	—	458 5	
300mg	25 168 0ea	—	252 0
100 611 2ea	—	916 9	
old packs			D
Rinoxin (506 Gerhardt) existing entry			D
Rinoxin (506 Gerhardt)			I
(distributors 430 Eucryl)			
concentrate	4oz 46 9	—	6 6
1 lb 133 3	—	18 6	
7 lb 66 0ea	—	110 0	
28 lb 240 0ea	—	400 0	
56 lb 471 0ea	—	785 0	
readimix	1 lb 36 0	—	5 0
3 lb 79 3	—	11 0	
7 lb 13 3ea	—	22 0	
28 lb 43 3ea	—	72 0	
56 lb 81 0ea	—	135 0	
Roger & Gallet (1076 R & G) existing entry			D
Roger & Gallet (1076 R & G)			I
bath cubes (6)	—	—	10 0
bath essence	—	—	15 0
bath oil	—	—	15 0
Cologne black label	1066	—	7 0
1000	—	—	12 0
1016	—	—	21 0
1017	—	—	41 0
1018	—	—	77 0
1190	—	—	9 0
1001	—	—	15 0
1002	—	—	26 0
1003	—	—	54 0
6047	—	—	28 0
lip-aide	—	—	3 6
soap guest size			
assorted, carnation,			
sandalwood (6)	—	—	12 0
soap toilet size			
J.M.F. Cologne,			
fougere, tea rose,			
lavender, carnation,			
muguet, violet	—	—	6 0
sandalwood	—	—	7 0
soap bath size			
J.M.F. Cologne,			
fougere, tea rose,			
lavender, carnation	—	—	10 0
sandalwood	—	—	12 6
talcum	—	—	12 0
tonic foam bath (pine)			
10 bath	—	—	14 0

	Trade	Tax	Retail
20 bath	—	—	24 0
men's range			
after shave lotion	5067	—	23 0
5068	—	—	32 0
deodorant spray	1104	—	25 0
pre-shave lotion	5062	—	25 0
toilet water	5057	—	30 0
5058	—	—	50 0
Si-Ko (1101 Sangers)			D
Si-Ko (351 Danning)			I
Snaplock (888 Newey)			
nappy pins (3)	8 9	1 2	1 3
(5)	12 9	1 9	1 9
mini (4)	10 6	1 5	1 6
Stera-Fix (1037 Reckitt)			A
small	20 3	—	2 3
large	33 9	—	3 9
Supersoft (563 Hampshire)			
bubble bath	15 11	5 9	2 4 ●
bottle			
Trilene (649 ICI)			
surgical			D
Valerie (888 Newey)			A
hairgrips tipped	4 9	1 9	9
Ventolin (34 A & H)			
aerosol inhaler	18 6ea	—	— 1
Vitathone (333 Cupal)			
chilblain tablets†	50 32 3	—	3 11 A
Wig Set (888 Newey)			
curlers	10 106 0	38 10	16 9 I
8	—	—	— D

AMENDMENTS TO KEY TO SUPPLIERS

189 BT=British Tissues (Dixcel) Ltd, 214 Oxford Street London, W.1. 01-636 4011.
 351 Danning=P. A. Danning Ltd, 3 Trentham House 5 Riverdale Road, Twickenham, Middlesex. 01-892 6536
 809 M & W=Matthews & Wilson Ltd, 225 Putney Bridge Road, London, S.W.15. 01-870 0971.

Stop press

Fete (Molyneux (194 Bronnley)			
poudre parfume	—	—	65 0 ●
Hill's (605 Hill's) †DDI			
bronchial balsam	100ml 30 0	11 0	4 5 A
200ml	50 0	18 4	7 4
Keybells (563 Hampshire)			D
Keybells (1068 Roberts)			I
Valium (1074 Roche) †s4B			
ampoules 10mg/2ml	50 80 8ea	—	121 0 ●
Verton (1176 Squibb) †s4B			●
tablets	28 5 6ea	—	8 3
Zubes (563 Hampshire)			D
Zubes (1068 Roberts)			I

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Bendrofluazide tablets BP	BERKOZIDE® tablets	2.5 mg 5 mg	Containers of 100 & 1000 Containers of 100 & 1000
Imipramine tablets BP	BERKOMINE® tablets	10 mg 25 mg	Containers of 250 & 1000 Containers of 200 & 1000
Nitrofurantoin tablets BP	BERKFURIN® tablets	50 mg 100 mg	Containers of 100 & 1000 Containers of 100 & 1000
Oxytetracycline tablets BP	BERKMYCEN® tablets " capsules	250 mg 250 mg	Containers of 100 & 1000 Containers of 100 & 1000
Erythromycin tablets BP	ERYCEN* tablets	250 mg	Containers of 100
Phenylbutazone tablets BP	FLEXAZONE® tablets	100 mg 200 mg	Containers of 250 & 1000 Containers of 250
Tetracycline tablets BP	TETRACHEL* tablets " capsules	250 mg 250 mg	Containers of 100 & 1000 Containers of 100 & 500
Tetracycline mixture BPC	TETRACHEL* syrup	(125 mg/5 ml)	Containers of 500 ml

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J.2825

Conference chairman's address

continued

can, like the presence of different excipients or lubricants in tablets, and the type of coating, alter the biological availability of the drug from the preparation.

The present official disintegration test has been criticised for representing *in-vivo* conditions neither as to agitation nor in the choice of fluid used. At least the official test offers some criterion, and a manufacturer would hesitate to place on the market any ordinary tablet that did not comply with the disintegration test unless he had conclusive evidence that the tablets were fully effective. Sustained-release presentations are naturally in a different category.

To my mind B.P. solution-rate tests will have to be introduced to replace or supplement the existing disintegration test, at least for some of the less soluble drugs. Even if a general test is not imposed in the Pharmacopoeia the licensing authority under the Medicines Act will, I feel, require evidence on the point before granting a product licence for tablet presentations of new drugs or new presentations of existing drugs.

We are likely to see requirements set for content of active ingredient in individual dosage forms, particularly for low-dose preparations. Standards for such requirements in the United States appear to be practicable and satisfactory. Further statutory requirements may also be introduced to control the microbial contamination of drugs not applied or administered as sterile products. At about the same time that important work in Sweden was focussing attention on the problem, the F.D.A. in the United States issued in 1966 a warning after finding carmine contaminated with *Salmonella cubana*.

Little data has been published on the problem, but in January this year microbial contamination was the main topic at a U.S.P. conference in Washington. Quality control experts at that conference predicted a threefold increase in testing and microbiological control personnel if the current trend continues, and the increase might well be greater in Great Britain. On the other hand those responsible for producing the National Formulary have more recently concluded that such embracing tests are premature for compendial purposes.

The migration of dust may cause cross contamination at any stage of production and may involve any type of chemical. The F.D.A. in the United States and certain other health authorities are currently requiring tests for virtual

absence of penicillin, or an assurance that penicillin is not handled in the same building as other products. We may expect to see in Britain regulations to prevent such contamination laid down in licences issued to companies handling the antibiotic.

Regulations laid down in manufacturers' licences are unlikely to be applied to the dispensary. For the pharmacist in general or hospital practice it will be a matter of professional responsibility to ensure that any penicillin products he handles give rise to no trace contamination of other materials in his dispensary.

The control of "migrant impurities" in general is already subject to B.P. control. Being unpredictable in origin, they are most difficult to provide against in a specification, though the manufacturer, knowing the actual manufacturing conditions and the substances handled in his production units, will be aware of the most likely contaminating substances and so able to apply tests for them. Codes of good manufacturing practice thus become highly important, and no doubt steps introduced to prevent cross-contamination will be taken into account before manufacturing licences are granted.

The pharmacist in general practice must remember that a specification will be required in connection with a product licence and may even be required under a licence of right for such presentations as he makes up.

At the time this address was written no regulations had been issued under the Medicines Act, but a considerable increase is likely in the stringency of specifications for all types of medical and veterinary products.

That will involve more and more sophisticated techniques and lead to an increase in the size of quality-control departments in pharmaceutical manufacture, so enhancing the profession and status of analytical chemistry.

We can only hope that those who will demand the information and set the standards will not be dwelling in ivory towers.



CONFERENCE PRESIDENT:
Mr Albert Howells

Conference news and events

Tour of the city

Any conference members who still had doubts about conditions in Belfast were able, in a three-hour coach tour of the city on Sunday afternoon, to judge for themselves in how small an area the recent troubles had been confined.

In a tour that took in the Botanic Gardens, Ormeau Park, the Parliament building at Stormont, the city centre, dock area and new Castlereagh industrial estate on the outskirts of the city, members saw no evidence of disturbance. Then, towards the end of the tour, in order to reach Belfast Castle in the north-western suburbs, a few minutes' drive took them along parts of Shankill and Crumlin Roads. Here occasional soldiers were patrolling the route, shop windows were still boarded and along the side streets glimpses of burnt-out buildings and rolls of barbed wire were seen. Back in the suburbs all was again normal.

Institute sherry party

The Institute of Pharmacy Management held its annual sherry party on Monday. Members and guests were welcomed by Professor J. M. Rowson, president of the Institute, who spoke of its aims.

Mr Mervyn Madge, chairman of the membership and social committee, reported the progress of the Institute and the close collaboration with the colleges of pharmacy to promote management studies courses. Pharmacist graduates from Bath and Bradford Universities, Brighton, Liverpool, and Portsmouth Colleges of Technology, and Sunderland Polytechnic were now eligible to be admitted full members of the Institute provided they had successfully completed their management studies at these colleges.

Presbyterian church service

Taking his text from the Book of Jeremiah—"Is there no balm in Gilead?"—the Rt. Rev. Dr. John Withers, minister of Fisherwick Presbyterian Church, treated Conference delegates to an address with a strong pharmaceutical flavour on Sunday evening. He said that the derivation of the word pharmacy, *pharmakon*, had evil connotations — of sorcery, potions and witchcraft.

"But you have been baptised in Christ and have a new profession that plays its part in the health of society."

Referring to the increasing dependence on pills and tonics, Dr Withers maintained that people to-day tended to seek an artificial euphoria which left social cancers untreated—palliatives could never be compared with therapy.

Whole, holy and health being words with the same root led Dr Withers to present Christ's prescription for wholeness of life, the ingredients being a cause to serve (the Kingdom of God), significance of the individual, security in God, and love. The Church was the pharmacy in which that prescription was to be compounded.

FIRST PROFESSIONAL SESSION

Industry and the practising pharmacist [abstract]

SELWYN E. ANDREWS MPS

The relationship between the manufacturer of medicines and the pharmacist who dispenses them has altered quite fundamentally even in the past few decades. It is not so many years since pharmacist and manufacturer were one and the same person: the pharmacist both compounding and dispensing the product for the patient.

As new, highly effective remedies came to be discovered, the complicated equipment and processes needed to make the new medicines became too expensive for the individual pharmacist to contemplate. Manufacture became, to a very large extent, divorced from dispensing.

With diminishing contact between the two sides there has come a lessening of knowledge and understanding of each other's problems. The situation is further complicated in our Health Service society. There are the manufacturer of the medicine, the doctor who prescribes it, the pharmacist who dispenses it, the patient who uses it, and of course the taxpayer who pays for it.

In such a many-sided arrangement it is most desirable that each party should understand the main policies and problems of the others.

The pharmaceutical industry has been much criticised. The Kefauver hearings in the United States of America seemed to set the stage for others to follow suit, as did the Sainsbury committee.

In the past two years two official inquiries, a White Paper, one major Parliamentary Bill and several minor ones have marked a period of intense interest and activity. But even in countries that do not have state health schemes the pharmaceutical industry faces similar problems if one takes the trouble to seek them out.

The dilemma facing the politicians who set the economic course of the nation is: Do we want to save a little now at the risk of jeopardising future medical advances which, on the evidence of the past, could save the Health Service many millions of pounds? Do we want to save money on one small part of the National Health Service at the risk of affecting export earnings worth £100 million a year?

When the taxpayer grumbles about the cost of the Health Service and medicines is he aware, for example, that a 10s prescription for an antibiotic can often avoid the need for hospitalisation at the cost to the Health Service of £50 a week?

The Board of Trade retail price index for pharmaceutical products rose less

than 6 per cent in the 10 year period 1958-68, while over the same period the price index for all manufactured goods climbed by 43 per cent.

Though the average cost of a prescription has gone up, the overall expenditure on medicines has remained at a steady 11 per cent of the total Health Service budget. A survey carried out by the Department of Health showed that the price index for about 1,200 major prescription medicines declined at the rate of 4 per cent per annum in 1962 and 1963.

Significantly, the Sainsbury committee did not want the industry nationalised.

On research its report says: "There may be an element of economic waste in competitive research but the evidence we have obtained leads us to believe that without such competition there would be a slower rate of discovery and innovation".

The Committee, however, appeared to favour reducing promotional activity and abolishing the use of brand names for new medicines. This in spite of the fact that promotion of medical specialty products, based on the use of brand names, is a proven and essential link in the innovation chain.

Under conditions of intense product competition, unless the merits of a new medicine can forcefully be brought to the notice of prescribers, the prospect of building up an adequate sales volume and recovering the outlay on research before the product is superseded is remote. An adequate sales volume is also the means of keeping down the price and progressively lowering it. Unless and until a medical innovation is actively sold, many who might benefit may be deprived of the most up-to-date treatment. Pharmaceutical promotion expenditure in this country is lower than in most others.

A problem facing exporters is the need for high promotional expenditure in overseas territories. The pharmaceutical industry in the United States, for example, spends about 20 per cent of its sales on promotion whereas the figure in the United Kingdom is only 14 per cent.

The Medicines Commission was created by the Medicines Act, 1968. The industry supports the principles behind this legislation and is co-operating with the Department of Health in drafting the regulations under it. Pharmaceutical manufacturer and pharmacist have a common interest in the effective operation of the Medicines Act.

The Sainsbury recommendations on future pricing arrangements call for a degree of disclosure of company informa-

tion to its principal customer that must be the greatest ever.

The report's drastic recommendations on prices, and the proposal that brand names should be abolished, stem from its conclusion that the pharmaceutical industry had made excess profits through over-pricing.

Several economic studies have cast serious doubts on the validity of the committee's conclusions, yet there are continued pressures on the industry to reduce its profitability, on the unproved assumption that it is too high.

The pharmaceutical industry suffers from the suspicion that its profits are earned by exploiting the peculiarities of the prescription medicines market. Without economic theory and empirical evidence the problem cannot be resolved, and companies in the industry are co-operating in various academic studies to throw light on the reasonableness of its profits.

Price reductions since 1965 have resulted in savings to the National Health Service in 1969, for example, of more than £12m. a year, and over a period of three years more than £36m.

The Department of Health and Social Security has continued its vigorous policy of drawing the attention of doctors to the cost of their prescriptions.

These pressures on prescribers are a feature of the National Health Service and are absent in countries such as the United States, which still provide no general pharmaceutical benefits under their health schemes. It is now clear, however, that the existence of a monopoly "purchaser" and the various pressures it will exert on prices and prescribing are likely to depress the profitability of the industry rather than raise it.

Some companies now express fears about directly restraining profits through a price regulation scheme while stimulating price competition to an extent that would be absent in a free market.

Another problem concerns the identification of the profits properly attributable to the United Kingdom business in a large diversified international company. One study of this problem by Cooper and Parker, from the University of Exeter, concluded: "The wide disparity between the profitability of the pharmaceutical industry, and of industry in general, owes more to the structural differences in the respective rewards to capital employed."

Last year the pharmaceutical industry exported products worth £100m.—mainly



Conference members at the professional session

to the sophisticated markets of the advanced countries.

The latest National Plan looked at economic growth and the balance of trade and found that the Government was looking to the chemical industry to provide a large part of the country's economic growth. Since the pharmaceutical industry produces half of the chemical industry's favourable trade balance, the nation is therefore looking to the industry to help rescue it from an adverse trade balance. Increased pharmaceutical exports are thus essential to the economy.

The pharmaceutical industry is sometimes accused of using the patent system to restrict trade. Yet, historically, patents were first introduced to encourage trade by protecting the rights of inventors. Nowadays most discoveries come from corporate research, with expenditure at a level far beyond the lone inventor. But the need for patent protection remains.

The Banks committee is now busy examining the whole of patent law, and the pharmaceutical industry is reported to have provided more evidence to it than any other body has done. This is a measure of the importance the industry attaches to patents and their unique role.

However, serious drawbacks in the patents system discriminate against pharmaceutical patents. First among the drawbacks are licences under Section 41 of Patents Act, as any pharmaceutical firm can apply for a licence to manufacture the product in the knowledge that granting of a licence is virtually automatic. Only the scale of royalties remains to be agreed. Though rarely used, Section 41 of the Patents Act remains as a threat to progress. The "Crown use" section of the Act enables the Department of Health to obtain supplies of patented goods from unlicensed sources "for the services of the Crown," thus overriding the rights of the patentee. Medicines

imported under Section 46, being copies of American ones, were not surprisingly cheaper.

Future Ministers will be able to wield this weapon over the entire range of purchases for the general practitioner services of the National Health Service. The industry views the possible use of all these "loopholes" in the Patents Acts with serious misgivings. Shorter patent life would selectively discourage major innovation.

One of the more obvious links between the industry and the pharmacist can be seen in methods of presenting and packaging medicines. There is an increasing trend towards dispensing the manufacturer's own pack, partly because of the need for biological cleanliness. Sterile eye ointments, for example, may only be dispensed in this way.

Brand names, the Sainsbury committee said, tend to prolong the monopoly position of the seller even after his product has come out of patent. This arises when the brand name is so firmly imprinted in the minds of prescribers that they have a tendency to write it even when cheaper equivalent products are available.

There have been a number of cases in recent years to show that, even where two preparations have the same active ingredient, there can be great differences in their therapeutic effect. In the United States several brands of chloramphenicol were found to be well below the standard of performance of Chloromycetin. The Food and Drug Administration ordered them to be withdrawn.

A recent experiment by the Upjohn Co. showed that reducing by half the binding agent in tolbutamide tablets dramatically affected the level of the active compound in the blood of volunteers. There are many similar documented examples.

The need to identify both the product and the manufacturer was recognised by

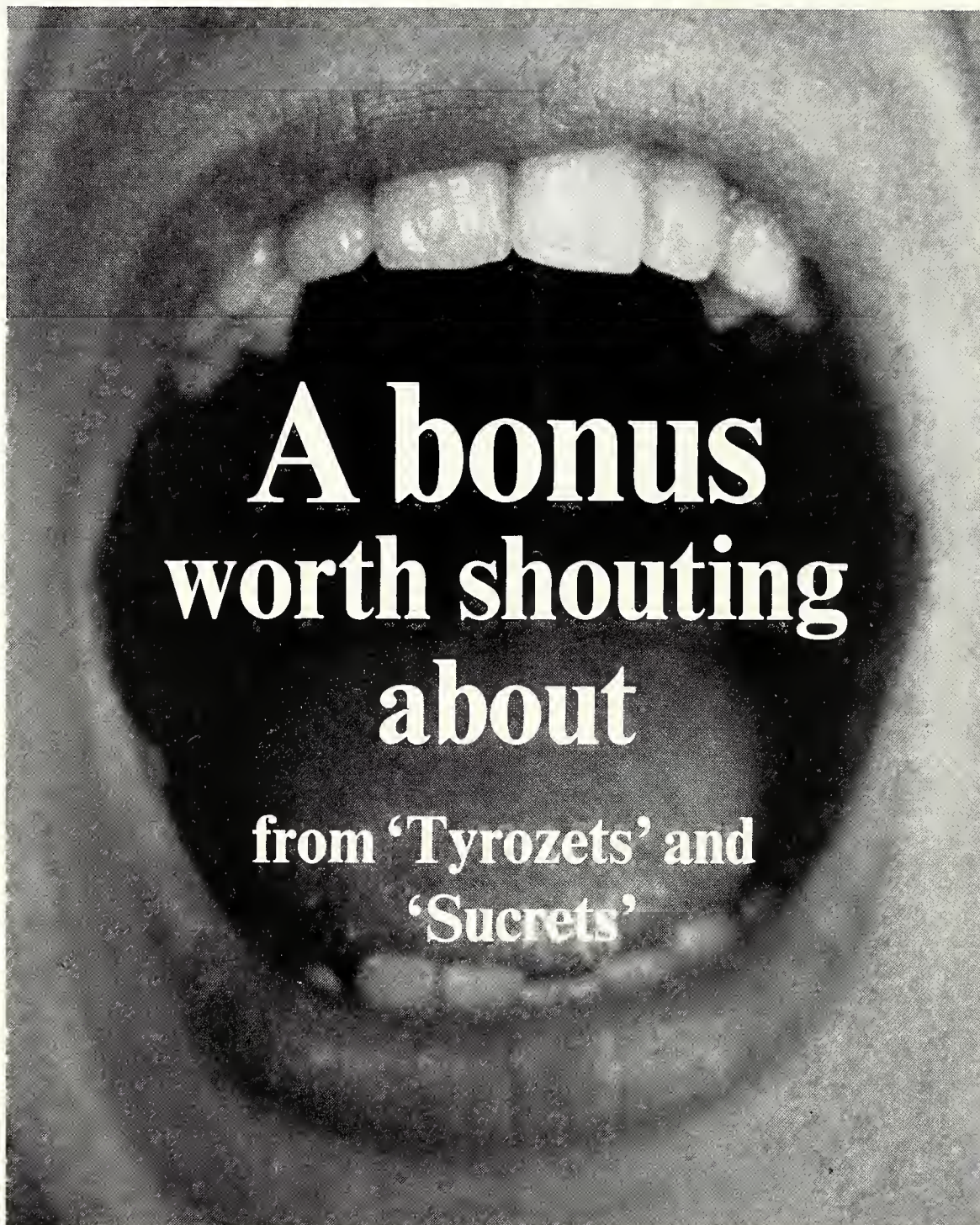
the Sainsbury committee. Unless the doctor knows accurately the various excipients and exact methods of manufacture for a medicine, there could be dangerous confusion in his prescribing other than by brand name.

The duplication of certain classes of product is often discussed by the pharmacists who dispense them, but duplicated brands in Britain account for less than 7 per cent of the market. The nation's level of expenditure on medical advance keeps rising, yet the political pressure to keep down the cost of treatment never relents.

No one would seriously expect the price of medicines to be justified solely by a "benefits" element. It is as well to reflect on whether or not we would still have a Health Service if the pharmaceutical products had not been there to reduce hospitalisation times, for example, and enable out-of-date buildings to cope with more and more patients.

Over-bureaucratic controls on the pharmaceutical industry could soon destroy the incentive to invest, to undertake research and even to continue in business. The need to operate efficiently and on a large scale, to meet strict safety requirements and to sustain an intensive search for new products, is what makes the pharmaceutical industry of to-day so different from the manufacturing pharmacist of 40 years ago. The pharmacist is no longer alone in the industry but is now part of a multi-discipline team including research chemists, zoologists, biologists, economists, marketing men and accountants.

I am sure we all recognise the need for a clearer and constant communication between the industry and pharmacists, and it is certainly the A.B.P.I.'s desire to foster a better understanding and a clearer, more meaningful relationship with practising pharmacists.



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First Professional Session (continued)

Mr Andrews followed up his address (see p 210) by remarking that the occasion was the first on which the pharmaceutical industry had been invited to address a professional session of the conference, though many papers from that source had been contributed to the science sessions. He had dealt at length with prices, patents and brand names as he felt that the industry's views on those subjects were insufficiently appreciated by practising pharmacists. The ABPI was presented with a tremendous bill for providing medical and pharmaceutical information to the public. Often the story would be best handled by a practising pharmacist—it was in their interest as well as those of the industry that the public should see the real reason for things being as they were.

First speaker in the discussion, MR C. H. PRESTON ROBINSON, Mansfield, asked whether more of the industry's promotional expenditure could be channelled back into the pharmaceutical rather than into the medical profession.

MR J. C. N. WILFORD, Bexhill, pointed out that some manufacturers had not reduced prices for many years, though they must long ago have recouped their research expenditure. The pharmacist was criticised for the high prices.

First of several speakers to ask for more specific views on how relationships between industry and pharmacist could be improved, MR H. MACKLEY, Newcastle upon Tyne, thought that the address delivered did not accord with its title, but was an apology for the industry.

He complained that the pharmaceutical industry had been a long way behind the food industry in introducing improved packaging such as tamper-proof packs.

In reply MR ANDREWS said that, though grants to pharmacists for post-graduate study and attending conferences was highly desirable, companies already had tremendous claims on their funds for many kinds of assistance. The amount spent on promotions was necessary to ensure the thriving, thrusting industry that went hand in hand with innovation.

It was true that some companies' prices had stood still, but it must be remembered that costs had increased tremendously in the past few years, many being unrecoverable owing to the Government's policy of price restraint. The cost of one piece of apparatus required by his own company had gone up 60 per cent in one day at the time of devaluation. It was difficult to absorb such costs and still to reduce prices.

ABPI "could help pharmacists"

To Mr Mackley he said he would have liked to have said more on the subject of relationships but he had been trying to point out the differences that existed and to explain why they occurred. He agreed that ABPI members could help pharmacists on containers and packaging, but that would be made easier if pharmacists would say what their requirements were. A company's representative might

be a suitable contact.

The point about the food industry and packaging was valid, but their priority was largely a result of the space programme.

MR C. MELLOR, Stockport, asked whether the ABPI would consider changing the shape of containers to rectangular and putting the label on the narrow edge of the bottle, so as to give more room in the dispensary.

MR D. H. MADDOCK, Cardiff (a member of Council) was disappointed that the author had not indicated how industry proposed to ease the lot of the general-practice pharmacist. How could pharmacists best support the industry?

He failed to see why different brand names were needed for each make of product produced under licence.

Could not the brand name be restricted to the initial manufacturer, all others using the official or approved name.

Referring to the remarks of the Conference chairman on contamination of drugs at dispensing level in his opening address, MR P. E. TAYLOR, North Staffs, asked for the views of the speaker or of the ABPI on dispensing from original packs.

Switching resources

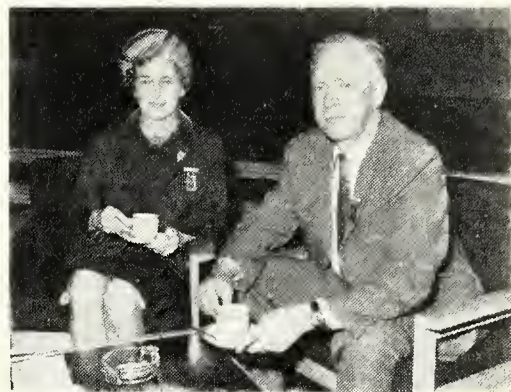
MR L. M. SPALTON, Thames Valley envisaged the possibility that the switching of industrial resources from original research into toxicological investigations might lead to a reduction of the industry's ability to finance research. Already there had been a disturbing fall-off in the number of newly discovered chemical entities that had been developed as new drugs. The extensive toxicological testing now required could take up to eight years—a considerable slice out of the life of a patent.

The difficulties of hospital pharmacists who were often asked for a developmental drug of which they had never heard was referred to by MR G. E. McILHAGGER, Belfast, who suggested that a code of conduct might be devised to improve relations of hospital pharmacists with industry and to ensure that the latter were kept fully informed.

MR M. CRANE, London, thought that too much emphasis had been placed on Section 41 of the Patents Act. It was a fact of life that industry must learn to live with, that medicines were different from many other patentable items, and it was unlikely that the Banks Committee would recommend any change.

MR P. CREES, Birmingham, wondered whether industry tried to give the full service the public were entitled to. There was an increasing tendency for companies to withdraw unprofitable or barely profitable products.

MR A. G. SHAW, London, secretary of the ABPI, replying to Mr Crane's remarks of Section 41 of the Patents Act, said that many overseas countries, such as India, derived their patents legislation from that of the United Kingdom. It was difficult to convey all the subtleties envisaged by Mr Crane into a foreign



Mr and Mrs G. L. Dickie, Aberdeen, having tea at the Conference

tongue, and in many of those countries licences were granted only too freely, with adverse effects upon the patentee.

As secretary of ABPI he saw his job as helping the development of relationships between the industry and pharmacists. In the past few years those relationships had improved immensely, and only recently, as a result of a meeting between himself and the Pharmaceutical Society's Practice Committee, the Society had decided it was able to support the Association's evidence to the Banks Committee.

MR A. DOWNIE, Crawley, pointed out that brand names could be extremely important in export markets, where such a name helped to sell. It would be difficult to impose a restriction such as that proposed by Mr Maddock unless it were made total. Brand names were generally shorter and more easily remembered than approved names and helped prescribers in industry which drug they thought best for the patient.

Further speakers said that Mr Andrews had referred to public-relations efforts by pharmacists, on behalf of industry Mrs J. C. Leigh said she had frequently addressed lay people on pharmacy and invariably the profits of the industry were criticised.

However, she had found the Office of Health Economics booklets invaluable in answering such criticisms.

MRS E. LUCAS SMITH, Slough, thought the speaker had brought out the point that the manufacturer's image could be projected to the ultimate consumer by the way in which pharmacists made ethical products available over the counter.

In giving his replies to the points raised Mr Andrews gave an assurance that he would tell the next meeting of the ABPI board of the various packaging problems that had been mentioned. Square containers, he pointed out, were often more expensive than conventional ones.

Contamination of dispensed medicinals had been the subject of recent discussions between the ABPI hospital supplies committee and the Hospital Services Committee. He would prefer original-pack dispensing where it was economic.

Mr McIlhagger would find that, as time went on, there would be an increase in the number of "stage 4" trials of new medicaments in which hospital pharmacists took part.

Science sessions

Analysis and quality control

Two tests that could improve the quality of white soft paraffin were suggested in the first paper of science session 1 at the Belfast conference. The paper, read by DR A. R. LONGWORTH, Imperial Chemical Industries Ltd, showed that a number of samples of white soft paraffin, though complying with B.P. and U.S.P. tests for melting and congealing points and unctuousness to touch, all had a tendency to form waxy lumps and to "bleed" (separation of liquid paraffins). An increase in microcrystalline wax content and therefore in network structure reduced the tendency to "bleed." A test for tendency to form lumps and one for final viscosity after shearing would control the undesirable properties of the white soft paraffins.

MR MYERS, Edinburgh, said that during the recent spell of hot weather he had noted separation of liquid paraffin on various samples he had bought. He had been tempted to pour it off, but the product might not then have complied with B.P. requirements.

Could not liquid paraffins be removed by the manufacturer? MR LONGWORTH replied that some suppliers would be prepared to look into such a problem. High-quality white soft paraffins were commercially available.

MR R. I. FELIX, Liverpool, who asked whether any correlation had been found between the physical properties of the material and extrusion from a tube was told that the "greatest difficulty" had been found in that connection. It had been found necessary to balance the desirable

unctuous properties of the material its flow properties in order to achieve ease of extrusion.

A chromatographic approach to the determination of oxytetracycline purity was presented by MR F. BAILEY, Imperial Chemical Industries Ltd.

To obtain an accuracy of ± 2 per cent with the current microbiological method involves multiple assays on three successive days—and impurities with activity against the test organism are unavoidably estimated as oxytetracycline. Mr Bailey said that the oxytetracycline molecule was "bristling" with functional groups but attempts to estimate them by techniques such as polarography demanded preliminary separation of the impurities which were structurally similar.

The proposed method involves chromatographic separation using hexane-ethyl acetate-*pH* 3.3 on Celite and measurement of the absorbance of the eluate at 263 nm.

The method allows determination of oxytetracycline in the presence of several anticipated impurities and is currently being used on broth samples from fermentors, intermediate crude samples and the final product. It has not yet been tried on formulations.

Mr Bailey said during the discussion that investigation of oxytetracycline stability revealed a fall in the chromatographic assay faster than that shown by the microbiological assay.

In a short paper from the faculty of pharmacy at Alexandria University, United Arab Republic, a non-aqueous titration method was described for barbiturates in different pharmaceutical forms. The authors were not present to present the paper, which was not discussed.

A further contribution from overseas described a method of determining some steroid esters employing a modification of the terazolium method. The paper was presented by Dr S. Görög, G. Richter



Mr R. I. Felix, Liverpool

Ltd, Budapest, Hungary. During discussion it emerged that the method had not been evaluated on phosphates, succinates, etc—corticosteroids commonly used in Britain.

Application of gas chromatography to the determination of adrenaline in pharmaceutical products was described in a paper from CIBA Laboratories Ltd, Horsham, Sussex. The technique was evolved in an effort to overcome the difficulty of determining the substance when decomposition, racemisation or reaction with the bisulphate ion often incorporated in products might have taken place.

Some contributors to the discussion were not convinced that the method would re-

An audience at one of the science sessions in the David Kerr building



solve the more likely degradation products. Mr C. A. Johnson, London, said that control authorities were concerned only with whether the product had decomposed. Colour observation and racemisation tests remained the best methods. Racemisation could not be shown by the method described.

A short communication from the analytical laboratories of the Department of Pharmaceutical Sciences described a gas chromatographic procedure for determining nicotinamide and thiamine in vitamin preparations. Existing assays were lengthy and might require the determination of each compound separately when they were present in admixture. The technique described improved upon a previous gas chromatographic method for mixtures based on conversion to the N-O-bis (trimethylsilyl) acetamide derivative by cutting out the conversion to the silyl ether. No interference by ascorbic acid, pyridoxine and riboflavin had been found.

A new approach to the assay of male fern extract had been examined by workers at the University of Strathclyde. Describing the method, Miss I. Cooper pointed out that the preparation was still widely used in heminthiasis and was official in the British Pharmacopoeia.

The method examined involved two-dimensional chromatography of phloroglucinol derivatives of the filicin content of male fern extract followed by an ultraviolet spectrophotometric determination of the spots representing flavaspodic acid and filicic acid. A number of speakers queried points of technique but DR F. FISH, a joint author of the paper pointed out that the report was merely preliminary. If the flavaspodic acid content of male fern extract were known, the biological activity would be well on the way to being known, and biological investigation would be carried out.

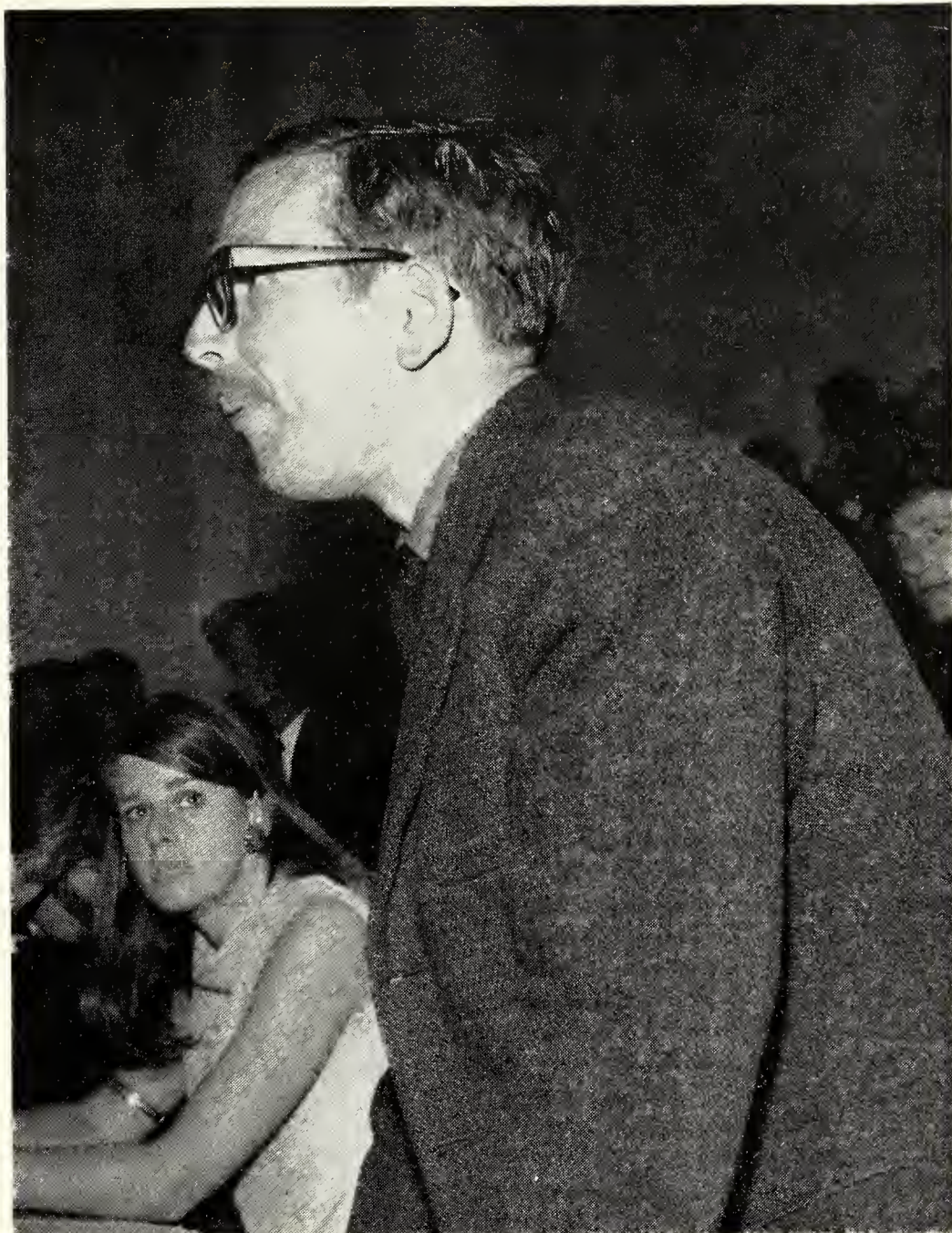
A further improvement upon the analytical methods for an old-established botanical drug was an assay for emetine and cephaeline in ipecacuanha root proposed by Mr M. S. Habib, Bradford University.

He had used thin-layer chromatography to isolate the alkaloids and determined areas of the spots produced as compared with standards. The method could be adapted to the tincture and dry extract and preparations containing them.

Tableting theory and practice

Conventional tableting lubricants, particularly magnesium stearate, tend to reduce tablet strength by weakening the bonds between the individual particles that make up the tablet. They may also make the tablet waterproof in some degree, and so extend its disintegration time. These effects are the price paid for ease of removal from the die and high production rate on an industrial scale. Dr J. A. Hersey presented the results of tests in which finely powdered Fluon was used in the manufacture of lactose tablets.

The tablets had a high strength and



Dr S. A. Malcolm, Isleworth

came out of the die more easily than did controls made with magnesium stearate. They disintegrated at the same rate as tablets of pure lactose. Doubts were expressed about the toxicity of Fluon powder; chronic oral toxicity tests would be needed before it could be accepted as an additive. For use in Britain, there will be patent complications since a 1967 American patent seems to cover this novel use of Fluon.

But there is no reason why it should not be useful in tableting materials not intended for oral presentation, for example tungsten carbide tipped tools, some of the mothball formulations, and in powder metallurgy generally.

Dr D. Ganderton, Strathclyde University, has examined the degree to which magnesium-stearate prevents the ingress of water into the body of a tablet. By an ingenious combination of air permeability measurements and water uptake determinations, he showed that the geometry of the pores in magnesium carbonate tablets was not greatly modified by lubricant addition. What was changed was the wettability of the surface pre-

sented to ingoing water. The wettability decreased as the efficiency of mixing in the lubricant increased, and he was able to put mixing methods into an order based upon the disintegration time of the tablets produced.

It was pointed out in discussion that magnesium carbonate formed a porous tablet and was insoluble in water: what about a less porous tablet of a more soluble material, say icing sugar or neomycin sulphate? To obtain rapid disintegration of such a tablet was almost impossible owing, presumably, to an increase in the viscosity of the penetrant liquid as it dissolved the drug. Dr Ganderton demurred in a lively interchange, maintaining that a tablet that disintegrated as it was penetrated would not have a different disintegration time since there would be pores restricting liquid movement by reason of viscosity only.

The paper was interesting and important because it dealt with the detailed behaviour of a pharmaceutical system of manifestly wide utilisation: the behaviour of an actual tablet.

Two papers from the School of Phar-

macy, University of London, dealt with the measurement of properties of single crystals of various pharmaceuticals, notably their hardness and modulus of elasticity, properties that are quite difficult to measure on tiny specimens. Nevertheless Dr J. Glasby succeeded in obtaining reliable results on about a half-dozen compounds. Hardness of crystal surface and resistance to bulk deformation ran closely parallel with one another and the results were used to show, in the succeeding paper, that in tableting the force on the wall of the die was greater for softer than for harder materials. Some attempt had been made to find out whether the hardness of a crystalline material, aspirin, changed according to the rapidity with which the crystal had been deposited from solution. The results were inconclusive, but it was obvious that, if "tableability" and mode of crystal growth were linked for any particular substance, then that would be an important conclusion. Mr H. BURLINSON drew on his extensive experience in the tableting field to show that comparatively minor changes in tablet formulation could have considerable effect upon the properties of the resultant tablet.

The final paper of the session, presented by DR K. RIDGWAY, was from the same source. The angle of repose, bulk density and flow properties of sand fractions were measured, in which the only change was in particle shape. Separation was achieved by means of a vibratory table, originally developed for sorting industrial diamonds: as the particles roll across the table they are displaced sideways by the vibration to an extent proportional to their angularity of shape. In the bulk, the angular material flowed less well and had a higher angle of repose than the spherical, but oddly enough had a lower bulk density.

The discussion was lively but took a rather erudite turn with the introduction of the concept of the chord size distribution of an assembly of particles as an alternative to the use of the shape coefficient.

Pharmacognosy

A method for simplifying the identification of powdered crude drugs and spices was described and demonstrated by MR P. F. NELSON, division of pharmacognosy and forensic science, pharmacy department, Strathclyde University as an introduction to a section of papers on the subject of pharmacognosy. A punch-card system had been devised that allowed the individual tissues present to be related to a particular structure of one plant species. 106 of the characters considered to be most important for covering the whole range of morphological groups had been selected and arranged on a card, as shown in the illustration. Each character had been strictly defined so that all users of the system would interpret the terms in the same way. A card had been prepared for each crude drug or spice. Characters present in the powder were clipped at the edge of the

card, and only the notches for characters rarely found or found in small amounts were inked. Any special features such as chemical tests that could help in identification were noted in a space provided.

The system received an appreciative welcome from the audience. Asked by DR FOSTER, Dartford, whether it covered exhausted drugs that might be used to dilute a drug. Mr Nelson said that a card for grass was included and had been successfully used for detecting dilution of digitalis by grass.

The morphology and anatomy of the flowers of *Mitragyna inermis* were described by DR E. J. SHELLARD, Department of Pharmacy, Chelsea College of Science and Technology, University of London. *M. inermis* was one of three West African species. The other two, *M. stipulosa* and *M. ciliata* having been previously described. *M. stipulosa* and *M. ciliata* could be distinguished by their differing alkaloid patterns, but *M. inermis* was little different from *M. ciliata*. In habit and habitats the two were quite different, *M. inermis* being a small tree with leaves about 4 in long. *M. ciliata* was large, with leaves up to 18 in long.

In the crushed condition, however, the two were difficult to distinguish, and a close study of the flowers was needed to distinguish them.

Following Dr Shellard MR K. SARPONG presented the results of the latest investigations at Chelsea into the chemistry of the *Mitragyna* species. The alkaloids of the leaves of *Mitragyna inermis* had been examined, seven being found to be present. Six of them had previously been found in the leaves of *M. ciliata*. All were oxindole alkaloids with normal configuration, but the seventh, an indole alkaloid, had the pseudo configuration. Traces of a second indole alkaloid were also present.

MR. B. ROBINSON, Department of Pharmacy, Manchester University, described how the final stage of work on the structure and synthesis of physostigmine and other alkaloids of *Physostigine venenosum* had been concluded by the determination of their absolute configuration. The solution of the problem was significant in connection with investigations being carried out into the interaction between the anticholinesterase alkaloids and the receptor site in the body.

MR J. M. CALDERWOOD, Department of Pharmaceutical Chemistry, University of Strathclyde, described how what is believed the first use of high-voltage electrophoresis to a pharmacognostical problem in Great Britain had been applied to the separation of the quaternary alkaloids of *Fagara* species. Tertiary alkaloids could be easily separated chromatographically but the quaternary ones presented more of a problem. Attempts to use low-voltage electrophoresis had been slow (3 hrs) and had given poor results. Use of high voltages (up to 5,000 volts) had recently become possible, and satisfactory separation had been achieved in 20 minutes. At the moment small-scale separations only were possible but larger scale apparatus was envisaged.



Mr P. F. Nelson, Glasgow, who spoke on a punched card system for powdered crude drugs and spices

Pharmaceuticals

Among the problems of suspension formulation is the growth of crystals on storage, or a change from one crystalline form to another. MR G. VARNEY, Imperial Chemical Industries Ltd. and a co-worker from Sunderland school of pharmacy have investigated the mechanism of such changes and believe that for oxyclozanide the more soluble polymorph goes into solution to create a supersaturated solution in respect of the less soluble polymorph—which may then be formed.

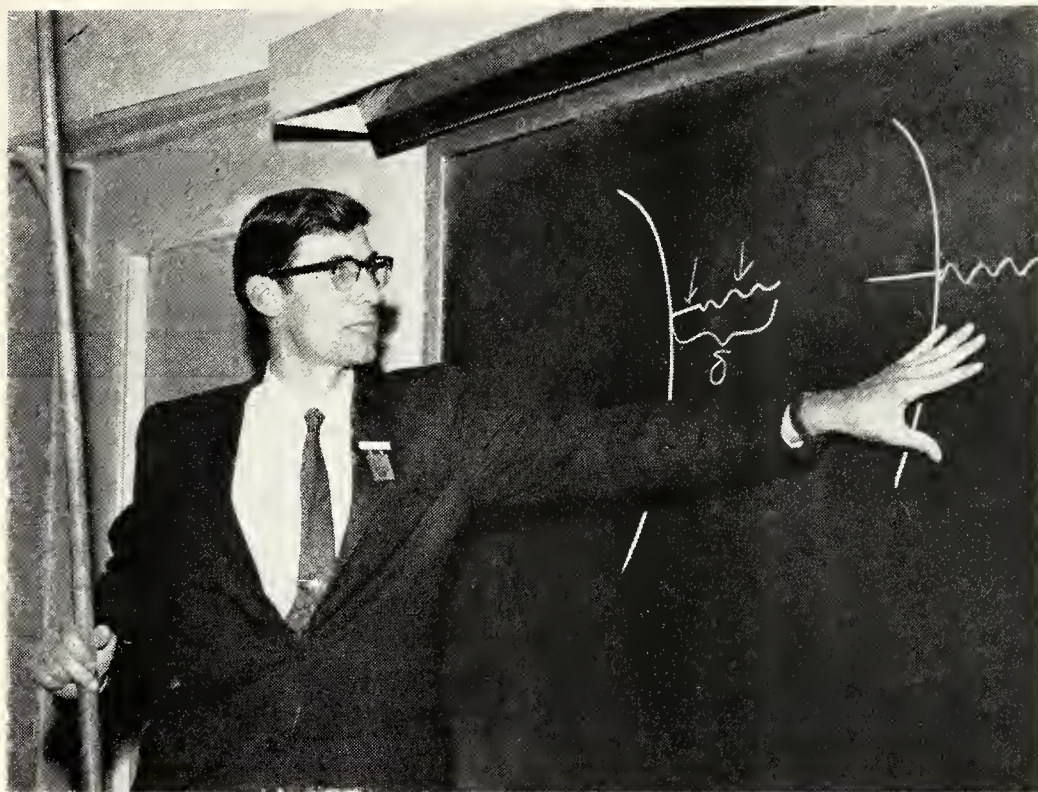
Such a transition can be avoided in preparations if they are formulated with the least soluble polymorph—but that is not always possible in practice.

During the discussion it emerged that a surfactant if added could slow down the rate of crystal growth, but not enough for practical purposes.

PROFESSOR A. H. BECKETT, Chelsea, questioned the relationship between polymorph solubility and biological availability of a drug. Mr Varney agreed that that was the sort of information required before production engineers could be persuaded it was worth while to make a particular polymorph. He took Mr K. A. Lees's point that sometimes the existence of a polymorphic form of new compound might not be discovered until after prolonged storage. Sometimes the forms could not be obtained without seeding.

Emulsion stability came under investigation in two papers from Strathclyde University presented by DR A. T. FLORENCE. The authors had first studied the effect of polyoxyethylene chain length on the power of non-ionic detergents to stabilise emulsions of anisole and chlorobenzene, finding greater stability as chain length increased.

In the second paper the authors attempted to explain their findings by mathematical assessment of the attractive and repulsive forces between the globules. Dr



Dr A. T. Florence giving his paper on stabilising oil-in-water emulsions

Florence admitted during the discussion that a "mathematical fit" for all systems was still a long way off, but thought it likely that with suspensions it might be possible to obtain a good prediction of stability.

Use of a thermoelectric osmometer to measure osmotic coefficients of aqueous solutions of sodium salicylate was discussed by Mr A. Deshmukh, School of Pharmacy, University of London. The method described brings a new and refined technique to such measurements.

Drug absorption and metabolism

A warning not to assume that dissolution of a drug from tablet and capsule formulations indicated that the drug would be absorbed was given by Dr T. H. Flanagan and co-workers at Imperial Chemical Industries Ltd.

Working with a potential analgesic (ICI 49,455, 1-isopropyl-1,2,3,4-tetrahydro- β -carboline) they had found that dissolution rate could not be correlated to the blood levels produced *in vivo*. Rate of absorption, as demonstrated by absorption in goldfish and by the buccal absorption test, was the limiting factor, rather than release of the drug. Rate of release, even from film-coated tablets, was always faster than absorption. The rate was dependent upon pH, so that absorption would vary throughout the gastrointestinal tract.

During the discussion it was suggested that enteric coating might enable the drug to be released at the point in the gastro intestinal tract at which it would be best absorbed, but the author was not convinced that the point of release could not be predicted sufficiently accurately. Several contributors stressed the need to do absorption studies early in the research, and Dr A. R. Longmore, one of the co-

authors, suggested it was a case for co-operation between pharmacists and biochemists.

Mr C. A. Johnson referred to pressure on the Pharmacopoeia to replace disintegration tests by dissolution studies and asked if that would be permitted. The authors were in agreement that dissolution tests were better for certain drugs, but should not be a blanket requirement—they applied only where rate of absorption was dependent upon solution of the drug.

Despite the prevalence of cocaine taking, little was known of the drug's metabolism. In order to obtain a method for its detection for forensic purposes, workers

Mr C. A. Johnson, London



at the University of Strathclyde, had investigated the excretion of cocaine and its breakdown product, benzoylecgonine, in a twenty-three-year-old man who was dependent upon both cocaine and heroin. From 1 to 9 per cent of the cocaine appeared in the urine unchanged, depending upon the degree of acidity of the urine, and benzoylecgonine amounts varied from 30 to 50 per cent.

The heroin modified the results because it was considered to be responsible for wide variations in daily urine volume.

The buccal quantitative test of drug absorption developed at Chelsea, and first reported to Conference two years ago, was taken a stage further with two papers presented by Professor Beckett.

In the first paper the influence of substitution in a series of phenylacetic acids had been studied and the results went some way toward building up a "set of rules" about what might happen to absorption as various substituents were added.

The second paper reported an attempt to replace the buccal test by a partition test so that the test drug did not have to be placed in a volunteer's mouth. An *n*-heptane system was chosen and proved to have equivalent solvent properties to the buccal lipid membrane for the compounds tested. However, said Professor Beckett, it could not replace the buccal test for all drugs.

Chelsea's work on the metabolism and excretion of amphetamines was taken a stage further by Mr Shenoy's investigation of the fate of ethylamphetamine.

A paper by Mr R. D. Hossie, Chelsea, reported on the metabolism, excretion and biological availability of 4'-chloro-2-ethylaminopropiophenone, a compound being investigated as an anorectic agent.

Single, multiple and sustained-release dosages were reflected by anticipated excretion levels, and the breakdown products followed the same pattern. The authors suggest that, for drugs rapidly broken down, it should be possible to evaluate the behaviour of different dosage forms from the excretion pattern of the breakdown products.

In the session's final paper Mr D. Dwama-Badu, Chelsea, reported on the influence of stereochemistry on certain properties of some of the *Mitragyna* alkaloids.

New officers

Pharmaceutical Society Branches

Romford.—Chairman, D. J. Mori; Vice-chairman, D. R. Davies and D. E. Simpkins; Treasurer, J. D. Mackenzie; Social Secretary, R. E. Frizzell 46 Belstedes, Lee Chapel North, Basildon, Essex, (telephone: 0268 43549); Secretary, K. M. Youngs, 22 Birch Crescent, Hornchurch, Essex (telephone (business): 01-592 3060 ext 553).

Teesside.—Chairman, R. E. Cox, Vice-chairman and social secretary, A. H. Greenwell, secretary and treasurer, T. Gould, 520a Thornaby Road, Stockton-on-Tees (telephone 0642 66465).

Doncaster Branch: Chairman, J. Whitworth; vice-chairman, B. J. Clarke; treasurer, P. G. Haley; secretary, T. E. Whaley, 4 Sheridan Road, Barnby Dun, Doncaster. (telephone Barnby Dun 2639.)

GUIDE TO NEW MEDICAMENTS

The Chemist and Druggist guide to new medicaments, September 6, 1969

VERTON tablets

MANUFACTURER E. R. Squibb & Sons Ltd, Regal House, Twickenham, Middlesex
DESCRIPTION Pale blue compressed tablets printed "Squibb" on one side. Each tablet contains 0.5 mg of chlormadinone acetate
INDICATIONS Oral contraceptive particularly suited to those women who experience side-effects such as nausea, weight-gain, oedema, headaches and depression with oestrogen-progestogen combinations.
CONTRAINDICATIONS History of thrombosis and liver dysfunction
DOSAGE One tablet daily, even during menstruation
PRECAUTIONS Caution is advised in patients with pre-existing carcinoma of the breast. Apart from some irregularity of cycles, side effects are uncommon
SHELF LIFE Three years
PACK "Memory" pack of 28
SUPPLY RESTRICTIONS P1, S4B
FIRST ISSUED September 1969

The Chemist and Druggist guide to new medicaments, September 6, 1969

KEFLIN injection

MANUFACTURER Eli Lilly & Co Ltd, Basingstoke, Hants
DESCRIPTION 10-ml rubber-stoppered ampoules each containing powder equivalent to 1 g of cephalothin. To be diluted with water for injection for administration
INDICATIONS Infections due to sensitive Gram-positive and Gram-negative organisms
CONTRAINDICATIONS Hypersensitivity to cephalothin
DOSAGE Usual adult dosage is 0.5–1 G every 4–6 hours by intravenous or intramuscular injection
NOTES Compatible with most commonly used intravenous fluids and electrolyte solutions but generally not compatible with high molecular weight compounds or alkaline earth metals. Addition to solutions below pH 4 or above pH 7 is not advised
SIDE EFFECTS See manufacturer's literature
SHELF LIFE After re-constitution the solution may be stored for 48 hours in a refrigerator. Any precipitation can be cleared by warming
PACK Ampoule containing equivalent of 1 g of cephalothin
SUPPLY RESTRICTIONS Therapeutic Substances Act
FIRST ISSUED July 1969

The Chemist and Druggist guide to new medicaments, September 6, 1969

PIPTALIN elixir

MANUFACTURER M.C.P. Pure Drugs Ltd, Alperton, Wembley, Middlesex
DESCRIPTION Elixir containing in each 5 ml 4 mg of pipenzolate bromide and 40 mg of simethicone (activated polymethylsiloxane)
INDICATIONS Alleviation of pain and discomfort in functional and organic digestive disorders, associated with spasm, hypermotility and gaseous distention as in infant colic, regurgitation and vomiting, functional abdominal pain in the schoolchild, flatulent dyspepsia, aerophagia, cardiospasm and pylorospasm
CONTRAINDICATIONS Bowel obstruction, hypertrophic pyloric stenosis or sensitivity to anticholinergics. Like all anticholinergics pipenzolate bromide is contraindicated in glaucoma. It should be used with caution in prostatic hypertrophy
DOSAGE Infants: up to 1 year (up to 10 kg bodyweight) 2.5 ml 15 mins. before each feed. Children: 1 to 5 yrs (10 to 20 kg bodyweight) 2.5 to 5 ml 3 or 4 times daily approx. 15 mins. before meals. 6 to 12 yrs (20 to 40 kg bodyweight) 5 ml 3 or 4 times daily approx. 15 min before meals. Adults: 10 ml 3 or 4 times daily approx. 15 mins. before meals
SIDE EFFECTS Pipenzolate bromide in high dosage may cause constipation with tenesmus and, rarely, flushing without fever. The reactions usually disappear or diminish with a decrease in dosage
STORAGE In a cool dark place
DISPENSING DILUENT Water
PACK Bottle of 100 ml
SUPPLY RESTRICTIONS Recommended on prescription only
FIRST ISSUED July 1969

The Chemist and Druggist guide to new medicaments, September 6, 1969

AUDICORT ear solution

MANUFACTURER Lederle Laboratories, Medical Product Division, Cyanamid of Great Britain Ltd, north-west wing, Bush House, Aldwych, London WC2
DESCRIPTION Ear solution, each ml of which contains 1 mg of triamcinolone acetate, neomycin undecylenate equivalent to 3.5 mg neomycin base, 7 mg of undecylenic acid, and 50 mg of benzocaine
INDICATIONS Acute and chronic otitis externa due to or complicated by bacterial or mycotic infection; eczematous or seborrhoeic dermatitis of the external auditory meatus; as an adjunct to systemic therapy in chronic otitis media and for the treatment of cavities after mastoidectomy and fenestration operations
CONTRAINDICATIONS Tuberculosis of the skin, viral exanthems, herpes simplex, smallpox vaccination reactions, history of hypersensitivity to any of the components of the preparation. Should not be used in the eyes
METHOD Two to five drops, usually three or four times daily.
PRECAUTIONS Use of an antibiotic may occasionally result in an overgrowth of non-susceptible micro-organisms, while the presence of an anti-inflammatory steroid may encourage their spread. If superinfection does occur, the drug should be stopped and appropriate therapy instituted
SIDE EFFECTS Neomycin and benzocaine have occasionally been responsible for localised skin sensitisation. If local reactions occur, such as irritation erythema and oedema, medication should be discontinued
SHELF LIFE Eighteen months when stored in a cool, dry place
DISPENSING DILUENT Propylene glycol if required
PACK 5 ml plastic dropper bottle
SUPPLY RESTRICTIONS PI, Therapeutic Substances Act
FIRST ISSUED July 1969

The Chemist and Druggist guide to new medicaments, September 6, 1969

KOLANTICON gel

MANUFACTURER Merrell Division, Richardson—Merrell Ltd, 20 Savile Row London W1X 2AN
DESCRIPTION White gel containing in each 10 ml 5 mg of dicyclomine hydrochloride, 400 mg of dried aluminium hydroxide gel, 200 mg of light magnesium oxide and 40 mg of simethicone
INDICATIONS Treatment of gastrointestinal disorders attributed to hyperacidity, spasm and flatulence
CONTRAINDICATIONS Idiosyncrasy to dicyclomine hydrochloride
DOSAGE Two to four 5ml spoonfuls every three to four hours
SIDE EFFECTS Dry mouth, blurred vision and dysuria occasionally occur. Caution is advised when prescribing for any patient suspected of having glaucoma. Complaints of fatigue and dizziness have also been attributed to dicyclomine
PACK Bottle of 150 ml
FIRST ISSUED July 1969

The Chemist and Druggist guide to new medicaments, September 6, 1969

PIMAFUCIN suspension

MANUFACTURER Brocades (Great Britain) Ltd, Trend House, Pyrford Road, West Byfleet, Surrey
DESCRIPTION Suspension containing 2½ per cent of natamycin
INDICATIONS For use as an aerosol to treat infections of the lungs and respiratory tract caused by fungi and yeasts (e.g. *Aspergillus* sp., *Candida albicans*). In treating stomatitis mycotica (oral thrush) due to *Candida albicans*, may be applied locally after being diluted with distilled water to a concentration of 1 per cent.
DOSAGE 2.5 mg three times a day for 4 weeks, then 2.5 mg twice a day until the sputum is constantly negative for the relevant fungus. As 1 per cent oral suspension for local application: infants 4 drops under tongue after feeds. Children and adults 10 drops on fungal lesions after every meal
SHELF LIFE Two years
PACK Bottle of 20 ml
FIRST ISSUED June 1969

The Chemist and Druggist guide to new medicaments, September 6, 1969

PIMAFUCIN

MANUFACTURER Brocades (Great Britain) Ltd, Trend House, Pyrford Road, West Byfleet, Surrey
DESCRIPTION Pear-shaped vaginal tablets containing 25 mg of natamycin 1 mg of benzalkonium chloride lactose and buffer mixture (pH 4.2) up to 1100 mg. Cream containing 2 per cent natamycin in a bland cream base
INDICATIONS Tablets—vaginal irritation and discharge whether due to monilal, trichomonal or a mixed infection. Cream—candidal infections of the skin and nail matrix. Also in acute cutaneous fungal infections
NOTES May be used with safety during pregnancy
METHOD OF USE On retiring, one tablet should be inserted high into the vagina, using the applicator, for 21 days. It is imperative that the course be completed to ensure a complete cure and prevent recurrence of infection. Cream to be used topically as required
SHELF LIFE Three years
PACKS Vaginal tablets: pack of 21 tablets with plastic applicator. Cream 15-gm tube
FIRST ISSUED June 1969 (revised monograph)

Some of the members who went on the coach trip to the Ards peninsula during the British Pharmaceutical conference week in Belfast



NEW PRODUCTS AND PACKS

Pharmaceutical specialities

Chlormadinone oral contraceptive

E. R. Squibb & Sons Ltd, Regal House, Twickenham, Middlesex, have issued chlormadinone acetate oral contraceptive 0.5 mg foil-wrapped tablet packed in "memory" pack of 28. Issue date was September 5.

Addition to range

Berk Pharmaceuticals Ltd, Catteshall Lane, Godalming, Surrey, announce the introduction of a new pack of 500 tablets to their existing range of Erycen erythromycin tablets BP 250mg (44ls 0d).

In capsule form

Roche Products Ltd, Welwyn Garden City, Herts, are now offering a capsule form of Mogadon, 5 mg in packs of 100 (33s) and 500 (88s).

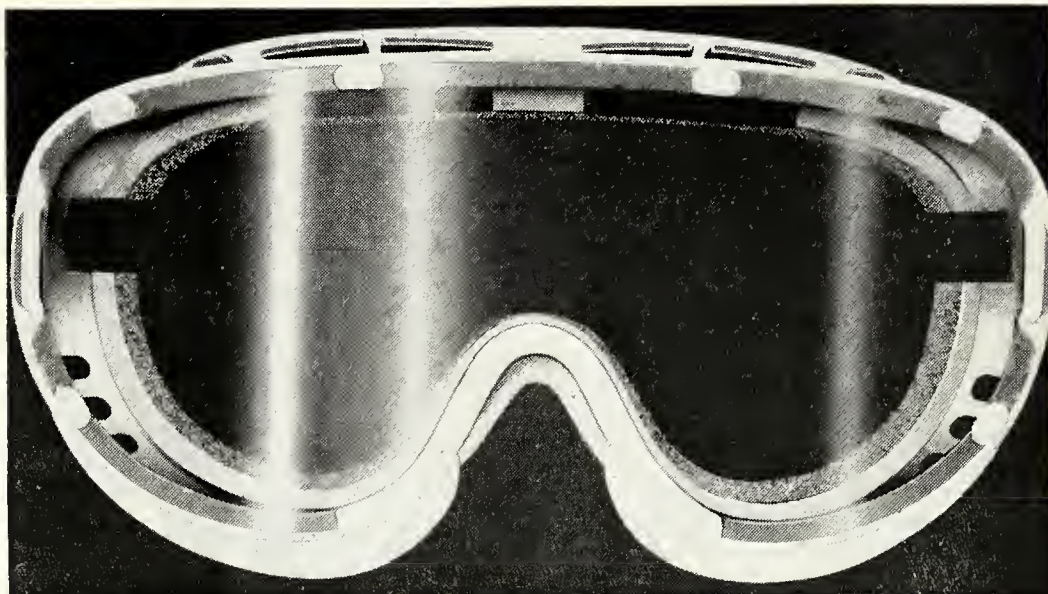
Cosmetics and toiletries

Atomisers from Givenchy photo 1

New-style atomisers for Givenchy's Le De and L'Interdit *eaux de toilette* (77s 6d) are pleasing and practical. They are tall bottles in an elegantly simple square shape with flush-fitting gilt tops. The square shape makes them easy to grip, the use of clear glass for the bottles helps customers assess the contents and their rate of usage. The spray button gives an instant fine haze of fragrance, and the top fits over this neatly and easily. The atomisers are non-rechargeable and disposable, 77s 6d.

Since the simplest and most convincing way of demonstrating a perfume is to spray the fragrance in its eau de toilette form, Givenchy are recommending that retailers also use the new-style atomisers as attractive testers for Le De and L'Interdit. And the special display fitment that they are supplying during sell-in of the new atomisers is designed to double as a tester-merchandise. This unit is dramatic, but durable and compact, in black and transparent perspex, lettered simply with the name Givenchy in gold. (Parfums Givenchy Ltd 2 Station Yard, Twickenham, Middlesex).

2



Bathtime luxury

Molyneux are now marketing their Fete Poudre Parfumée (65s) described as "seven ounces of pure bathtime luxury." It is in an elegant round white drum, presented in a handsome square white box, both emblazoned with the scarlet and gold Fête motif. It comes complete with a feather-soft powder puff which is in brilliant scarlet. (Distributors H. Bronnley & Co. Ltd, 10 Conduit Street, London W1.)

For hospital use

Disinfectant for high risk areas

Brocades (Great Britain) Ltd are offering to hospitals their new non-iodophor disinfectant, Broc/Asept. Broc/Asept owes its potent germicidal and cleansing efficiency to its two basic components, the biocide dipenidam and a powerful nonionic detergent.

Dipenidam is the first of a new class of compound consisting of charge-transfer complexes of ethoxylated alkyl amino-sulphonic acids and iodine which hold the iodine moiety closely bound within the molecule to give high stability even at elevated temperatures. These compounds therefore do not exhibit normal starch reactions and are not regarded as iodo-

phors. Dipenidam has been shown to have marked and rapid biocidal powers even when diluted. It is stable, non-toxic to human and animal tissue and does not stain skin or inanimate surfaces in the normal recommended dilutions. It retains its activity even in the presence of biological fluids and excretions. Broc/Asept is primarily intended for use in hospital high risk areas such as operating theatres, renal dialysis units, intensive care units and infectious disease wards where the recommended dilution of Broc/Asept is one part in 100 parts tap water, but if desired it may also be used as a general disinfectant of 1 in 200. Pack is a 10-pint polyethylene container. (Brocades (Great Britain) Ltd, Trend House, Pyrford Road, West Byfleet, Surrey).

Sundries

Polaroid ski-goggles photo 2

The newest item in the Polaroid range is the Polaroid ski-goggle (79s).

Featuring the unique interchangeable and shatterproof Polaroid polarising filters in neutral grey and tan, the ski-goggle has a white plastic mount with a contoured foam inner lining, and built in variable vents to obviate misting. The adjustable elastic head-strap is blue. The sides of the mount are die cut so that spectacles may be worn inside the goggle. (Polaroid (UK) Ltd, Huggins Lane, Welham Green, nr. Hatfield, Herts.)

Bathroom scales

Salter bathroom scales range from the new inexpensive No. 101 to the luxury 210 now available in a new colour range.

The 101 bathroom scale (39s 11d) has a black base with an embossed PVC weighing platform in either tango orange, medium green, black, light navy or harvest gold. The scale has a 20 stone capacity and the dual-marked dial has measurements in kilos as well as lb and stones.

At the other end of the price scale is the streamlined Salter 210 (89s 11d). It is elegantly finished in simulated leather in a new colour range which includes medium blue, Orleans green and tabac as well as black and white. It has a clear-view easy to read dual-marked dial. (Geo Salter & Co, Ltd, West Bromwich, Staffs.)

TRADE NEWS

Mazda flashbulbs to be exclusive to NPUM

Mazda flashbulbs are to become "chemist-only" under an agreement reached between British Lighting Industries Ltd and NPU Marketing Ltd.

The bulbs concerned are the Mazda flashcube (which makes possible four exposures in as little as 5 seconds) and the type 1 and AG1 miniature flashbulbs.

The agreement will involve active co-operation between Mazda and NPUM on the promotion of the bulbs. To get the promotional effort off to a good start during the October to December sales period, a spring holiday in Bermuda for two will be offered as first prize in a public contest. Vouchers worth £10 will go to the runners-up to be spent with the retailer concerned.

The Thorn group (of which BLI is part) is Britain's biggest manufacturer of lamps and lighting equipment. Mazda is one of their best-known brand names.

New colours for Delsey

Kimberly-Clark have added new colours, pastel green and apricot, to the Delsey range of toilet tissue and have made a design change at the same time. The move is part of the company's programme of strengthening and expanding its share of the £32.6 million toilet tissue market.

The existing design theme of the poly wrap has been retained but is now printed in strong basic colours, black, blue, red and white. With the increasing use of the outer as a display item the Delsey case has also been redesigned with eye-catching branding on each of the eight faces.



Plastic coins for education

Invicta Plastics Ltd, Oadby, Leics, are producing six million plastic coins a week as an educational aid for the forthcoming decimal coinage.

The company state that firms, both large and small, are beginning to realise that their staff who handle money will need to have experience of the new coins before they are put into circulation and that the plastic coins are of great advantage for staff so that they are able to get used to them before handling the real coins.

Although not identical in design with the coins being made by the Royal Mint in Wales, Invicta Plastics' coins are of the same size, shape and colour.

New Trading Terms

Roger & Gallet Ltd, Hambledon House, 17B Curzon Street, London W1Y 7FE, are to carry on their business on an agency basis, and have introduced new terms.

In order to cut down costs all orders under £5 are to carry a handling charge of 10s and orders under that amount will not be accepted without prior confirmation of acceptance of the charge.

Discontinued

Glaxo Laboratories Ltd have discontinued the following vaccine products: Diphtheria tetanus vaccine FT; diphtheria tetanus vaccine adsorbed (PTAH) remains available; Diphtheria tetanus poliomyelitis inactivated vaccine plain; inactivated poliomyelitis vaccine and tetanus vaccine FT. Tetanus vaccine (PTAH) remains available.

Advice on pilferage problems

A free advice service on shoplifting problems and on the siting of convex anti-theft mirrors has been introduced by the Volumatic Co, 4 Holbrook Lane, Coventry.

The company, which manufactures a range of convex mirrors used widely in all sections of the retail trade for anti-pilferage surveillance, is offering this siting service to customers throughout the United Kingdom, in addition to free

advice on all shoplifting problems and procedures necessary to combat pilferage.

The company's surveillance mirrors are available in three diameter sizes, 16 in (40.6 cm); 24 in (60.9 cm); and 34 in (86.3 cm); and are designed to give a wide angle of vision opening up blind spots and acting as a deterrent to intending pilferers.

Redesigned packs

Following a successful test market in the northern and south west regions, Racasan Ltd have launched nationally, redesigned packs for their air freshener blocks. The new designs incorporate a description of the perfumes found to be preferred by consumers. The perfumes chosen were lavender, sandalwood and pine.

The new block (1s 6d) is supplied in display cartons containing 18 blocks in assorted perfumes.

Distribution change

May Roberts (Ireland) Ltd will be the distributor for Parke, Davis & Co pharmaceutical and toilet products in the Republic of Ireland, from September 1. The distributor in Eire for Parke-Davis medical-surgical products as Rediplint and Vi-Drape range for use in surgery and obstetrics is Fannin & Co Ltd, Dublin.

Metricated

As soon as present stocks packed in Imperial measures are exhausted the following preparations will be available only in the metric sizes indicated: Insomnol 150 ml, Pectomed 150 ml, Pholcomed 150 ml, 1 and 2 l. Pulmodrine 150 ml, Tonivitan A & D 150 ml, and Tonivitan B 150 ml.

Free from purchase tax

Allen & Hanburys Ltd, Bethnal Green, London E2, advise that Ventolin inhaler and Eudemine tablets are exempt from purchase tax as from August 29.

Bonus offers

Bengué & Co Ltd, Mount Pleasant, Wembley, Middlesex. Pulmo Bailly 90 c.c. Fourteen invoiced as 12.

Radiol Chemicals Ltd, Stepfield, Witham, Essex. Radiol products. 10 per cent display discount on minimum orders of £5, excluding purchase tax.

Boots Pure Drug Co Ltd, 37 Station Street, Nottingham NG2 3AA. Fenox and Strepsils. Best terms 72 invoiced as 60.

Geigy (UK) Ltd, pharmaceuticals division, Macclesfield, Cheshire. Desogen lozenges, 90 units invoiced as 72, 58 as 48 and 28 as 24.

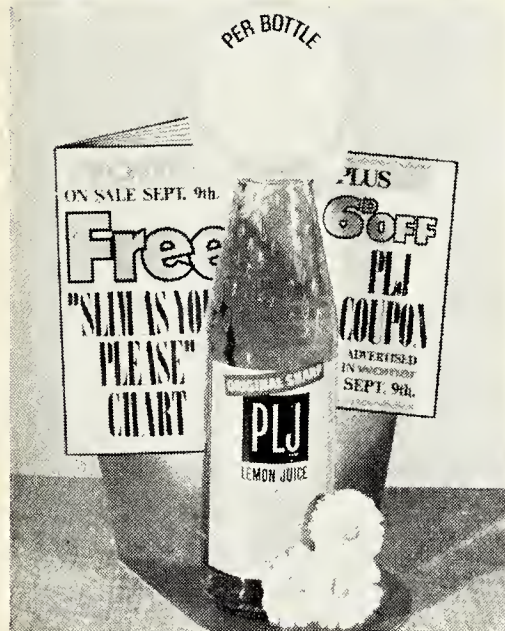
Meggeson-Warrick division of White Laboratories Ltd, Penarth Street, London SE 15. Blue special pastilles. Special discounts through representatives.

Scott & Bowne, 50 Upper Brook Street, London W1Y 2AE, Vykmin. six 4s 9d size with all orders for 48. 4s 9d size for their equivalent. Restoria. Six bottles invoiced as five.

PROMOTIONS

PLJ give-away aims to encourage winter slimming

Woman is linking with PLJ in a major "healthy slimming" drive in the form of a special diet card to be inserted in 2½ million copies of the September 13 issue.

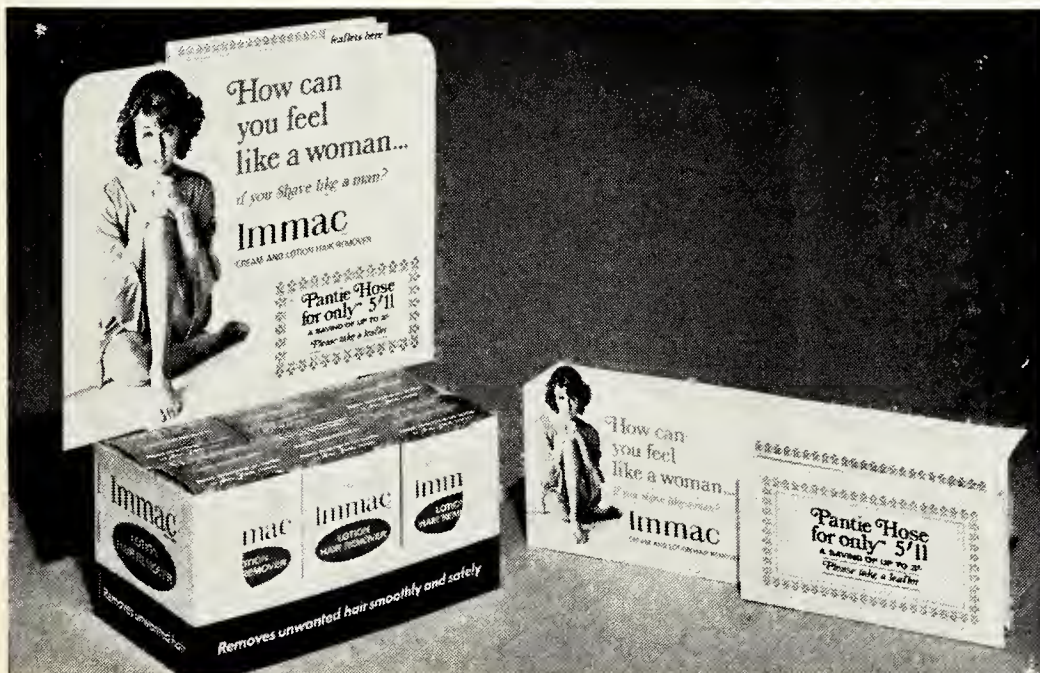


The cards will be backed by a full page colour advertisement offering readers a 6d-off voucher against their next purchase of New Sweeter or Original Sharp PLJ. Beecham Products (UK), Great West Road, Brentford, Middlesex.

Pantie hose offer

Latest consumer promotion for Immac depilatory is a pair of pantie hose for 5s 11d plus proof of purchase. The offer closes on November 28.

The promotion is supported by eye-catching point-of-sale material and national press and television advertising. (International Chemical Co Ltd, 12 Chenies Street, London WC1.)



Personna prepare for 1970

With the appointment of Gerald Green & Associates as advertising agents, Personna are testing a campaign in the central Scotland and Southern television areas on a scale that would cost £250,000 in 1970 if applied nationally.

A similar level of expenditure is contemplated on "below the line" activity, including point-of-sale material and consumer offers timed to coincide with exposure to the commercials. The second phase of the test campaign begins in September and continues until November. Results of the tests will be evaluated before the 1970 campaign is decided.

Personna International UK, Wellington House, 6 Upper St. Martin's Lane, London, WC 2.

Packed for presentation

A new display outer for Super Plenamins 30-day supply is in orange and blue and holds a dozen packs.

Super Plenamins are available on bonus terms during the next few weeks. Rexall Drug Co, 19 Castle Boulevard, Nottingham, NG7 1GB.



Free vial of Polyset

To make more customers aware that for almost every expensive hair salon treatment there is an excellent equivalent in a professional home-use range, Lambert Chemical Co offer a free vial of Polyset for normal hair with every pack of Poly-tint purchased.

Special counter dispenser units, to draw attention to the offer are available to retailers. Each holds 18 packs of Poly-tint in a split-level arrangement so that a corresponding number of Polyset vials can be accommodated and dispensed from behind the higher section. An extra vial is provided for the display board at the front.

Lambert Chemical Co Ltd, Chestnut Avenue, Eastleigh, Hants.

Slimming with Saxin booklet

Planned slimming with Saxin, the latest advisory booklet from Burroughs Wellcome, includes a comprehensive calorie chart, facts about diet, a list of recommended foods (and foods which must be avoided), exercises for "spot" reducing problem areas, tips for slimmers, and weight tables.

Burroughs Wellcome & Co, Temple Hill, Dartford, Kent.

ON TV NEXT WEEK

Ln = London; M = Midland; Lc = Lancashire; Y = Yorkshire; Sc = Scotland; WW = Wales and West; So = South; NE = North-east; A = Anglia; U = Ulster; We = Westward; B = Border; G = Grampian; E = Eireann; CI = Channel Islands

Andrews: All areas

Anadin: All except E

Askit: Sc, B, G

Bellair: Ln, M

Cleen-o-Pine: WW, NE, U, B, CI

Fore: Ln, M

Fynnon Spa: Ln, M, WW, A, We

JuiCet: Y

Phyllosan: WW

Steradent: Ln, M, Lc, Y, WW, So, G, CI

Equipment

Racks and Offices

A major part of the British American Optical Co Ltd's operation is now based in a new factory at Kidwelly, South Wales. The plant, which includes a new warehouse has superseded the old premises in Hertfordshire.

The Kidwelly warehouse has been equipped from the outset with purpose-built steel shelf racks and office accommodation by Dexion Ltd, Empire Way, Wembley, Middlesex. The racking was built by British American Optical Co Ltd in Dexion slotted angle and comprises 42 runs of 8ft high racks up to 24ft long. Stocks of the 16,000 different items are easily accessible, making the order picking and despatch procedures both fast and efficient.

The office area was built by Dexion Ltd over part of the storage installation, making maximum use of available space. Partitioning for the 76ft-long raised area was by Dexion Speedframe square-tube construction system. The black 1in Speedframe clad with glass and veneered chipboard, to provide smart and functional office accommodation.

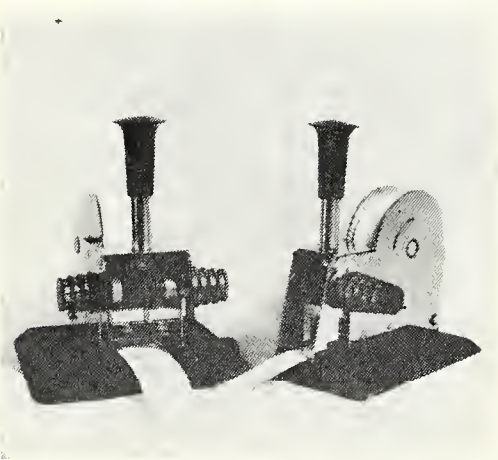
Dexion Ltd were thus able to supply the complete answer to the British American Optical Co Ltd's storage and allied administrative requirements at Kidwelly.

Two-colour price markers

Two new dual-system price marking machines have been added to the range manufactured by Easy Press Labels, Jerbor Ltd, Old Parsonage Works, Farningham, Kent.

The Twin Junior (700) model (£12 5s) prints simultaneously Sterling prices to 19s 11d in black and decimal prices to 99½p in red on a ¾ x ½-in label.

The Twin Senior (800) model (£14 15s)



uses a 1 x ½-in label that enables a Sterling price of 19s 11d in black and a decimal price of 99½p in red to be printed.

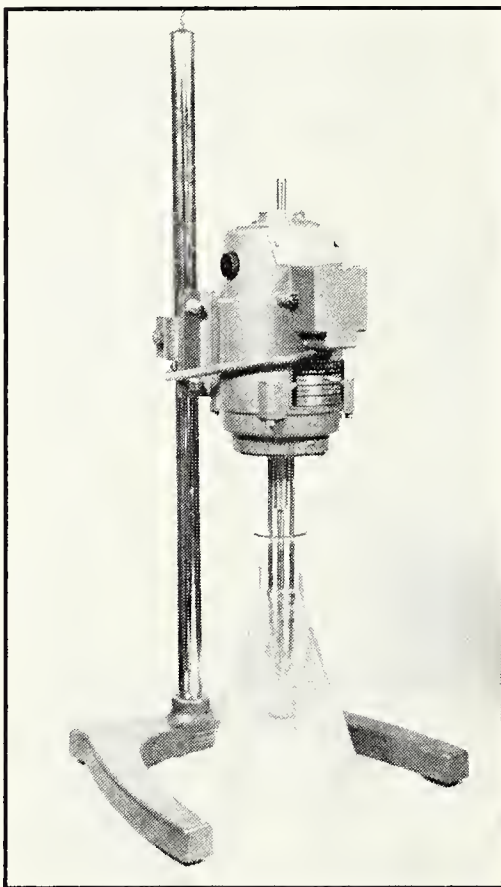
As with all models in the range the Dialset unit allows quick, positive setting of any price. Labels for all machines are available with either permanent or peelable adhesives in a wide range of colours and standard white, and can be pre-printed with user's name, address, etc., for an additional charge.

Chromatography starter kit

A new ITLC (Instant Thin Layer Chromatography) kit available from Gelman Instrument Company offers all materials needed to start using the unique technique. The kit includes a manual of procedures and is priced at £35 (£5 below the total of items purchased separately). Available from Hawksley & Sons Ltd, 12 Peter Road, Lancing, Sussex.

Adaptable stirrer

An extension to the range of stirrers manufactured by Voss Instruments Ltd, Maldon, Essex, is an emulsifier mixer type EMU/S with a ½ hp motor, 200/250 volts, single phase. The emulsifier head is normally fixed at a distance of 10in from the base of the motor, but it can be varied to meet customer's requirements. Various



types of speed control are available. The unit is suitable for mixing, homogenising, emulsifying and stirring and is supplied either with horse-shoe stand (type EMU/ST, or with clamp for vessel fixture, type EMU/CL.

Disposable micro-pipettes

Self-filling, self-emptying, disposable micro-pipettes specifically designed for easy dilution in haematology have been introduced under the name of Hemocaps by Shandon Scientific Co Ltd. They are made of precision-bore glass tubing cut to an exact length of 52 mm and contain precisely 20 µl when completely filled from end to end. Two types are available, plain tubes for venous blood and heparinised tubes for arterial blood taken direct from finger punctures. The tube is quickly filled by capillary action, and is simply dropped into the test tube or cuvette containing the diluent, where three or four seconds' agitation is sufficient to ensure complete dilution.

The Hemocap can be left in the diluent

during measurement: it causes a difference of only about 0.1 per cent in spectrophotometer readings.

Hemocaps can be used for haemoglobin and red and white cell counts. Both the plain tubes (£2 0s 0d) and the heparinised tubes (£2 6s 0d) are supplied in vials of 100. A discount of 10 per cent is available on orders for six or more vials of either or both types. (Shandon Scientific Co Ltd, 65 Pound Lane, London NW 10.)

Packaged Deminrolit Plant

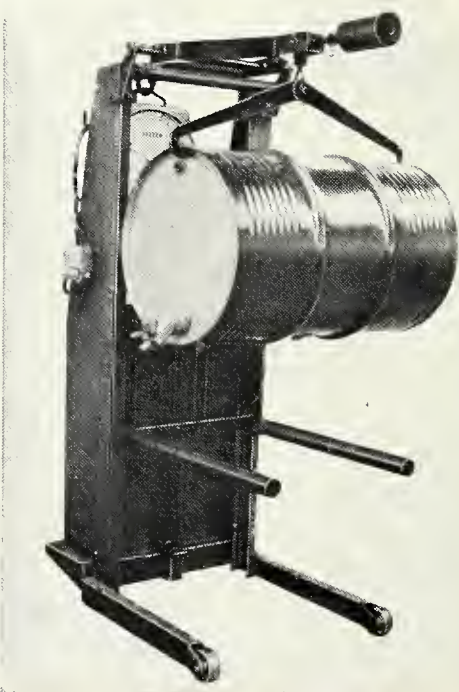
A new model within their range of packaged Deminrolit water treatment plant is now available from The Permutit Company Ltd, Pemberton House, 632 London Road, Isleworth, Middlesex. A compact plant of the mixed bed type, the new unit, designated MB18, provides up to 1,000 gal/h (4,546 l/h) of demineralised water from mains quality water. A new type of built-in conductivity meter/indicator controller monitors the purity of the treated water and operates an alarm bell when regeneration is required.

Regeneration is carried out on site using dilute hydrochloric acid and caustic soda, stored in a separate plastic container. The regenerants are injected into the mixed bed column by air pressure from a motor driven compressor which also supplies air for re-mixing the ion exchange materials after regeneration.

Drum weigher and dispenser

A new method of measuring out exact amounts by weight from 40/50-gal drums is announced by Powell & Co, Burry Port, Carmarthen. The equipment is suitable for drums which are emptied through a tap or valve fitted to the end bung and uses the Vertolifter hydraulic barrel stacker together with a balance lever mounted at the top of the mast framework. A drum scissors is suspended from one end of the balance lever with an adjustable counterweight to equalise the weight of the weigher.

The drum is picked up from the floor by the tubular forks of the stacker and is lifted into the scissors.



PATENTS

Complete Specifications Accepted
From the 'Official Journal (Patents)'
August 20

5-Alkyl 2-chlorophenyl N-chloroacetyl N-methyl-carbamates and their use as pesticides
Hercules Inc. 1,165,514.

Carbamates and pesticides containing these
CIBA Ltd. 1,165,420.

Pad for the protection the human skin
M. A. McDonald, 1,165,461.

Toilet bag
Unilever Ltd. 1,165,611.

Stabilisation of flavouring and odourant compositions
H. B. Taylor Co. 1,165,750.

Animal feed supplements
Boots Pure Drug Co Ltd. 1,165,775-76.

Injection appliances for contrast agents for medical use
A. G. Contraves, 1,165,842.

Organothiophosphates and their use as plant-growth-promoters
K. K. Nippon Kayaku, 1,165,846.

Halogen-containing phosphorothioate esters and insecticidal compositions containing them
Hercules Inc. 1,165,997.

British patent specification relating to the above will be obtainable (price 4s 6d each) from the Patents Office, 25 Southampton Buildings, Chancery Lane, London WC2 from October 1.

From the 'Official Journal (Patents)',
August 27

Contraceptive membranes and preparation thereof
Eisai K.K. 1,166,139.

Oxime carbamates and their use as pesticides
Shell Internationale Research Maatschappij NV 1,166,144.

Process for manufacturing cores for medical pellets in form of small spherical granules
Krakaowskie Zaklady Farmaceutyczne Polfa 1,166,317.

Alpha-chloroacetamide derivatives and phytotoxic compositions containing the same
Monsanto Co 1,166,382.

Dialysis equipment for purifying liquids, such as blood
Gambro AB 1,166,412.

Insecticidal compositions
Chevron Research Co 1,166,439.

A-nor-steroids
Merck & Co Inc 1,166,488.

Derivatives of dihydromorphine
Reckitt & Sons Ltd 1,166,510.

17B-tetrahydropyranoxyl-steroids
Syntex Corporation 1,166,559.

Machine for attaching labels and similar articles
William Carter Co 1,166,602.

British patent specifications relating to the above will be obtainable (price 4s 6d each) from the Patents Office, 25 Southampton Buildings, Chancery Lane, London, WC2, from October 8th.

TRADE MARKS

Applications advertised before registration
Trade Marks Journal August 27 No. 4748

Lavender Lady, B872,197, by David Thom & Co Ltd, Pendleton, Manchester. For detergents (not for use in industrial or manufacturing processes); toilet soaps, talcum powder for toilet use; perfumes and non-medicated toilet preparations (3)

Studio Sway 'N Shine, 922,574, by Studio Girl-Hollywood Ltd, Havant, Hants. For hair-sprays being non-medicated toilet preparations (3)

Parto, 927,307, by Charles August Becker, Croydon, Surrey. For detergents not for use in industrial processes or in the course of manufacture (3)

Kimono, 927,549, by E. R. Holloway Ltd, Hatfield, Herts. For perfumes, cosmetic preparations, non-medicated toilet preparations, preparations for the hair, shampoos; and artificial eyelashes and artificial nails, all being toilet articles (3)

Q-Matic, 928,549, by Camille Simon Ltd, London W 4. For detergents (not for use in industrial or manufacturing processes) (3)

Ritz Chiaro, B930,552, by Charles of the Ritz Distributors Ltd, Burgess Hill, Sussex. For perfumes, cosmetics, non-medicated toilet preparations and preparations for the hair (3)

Swabol, 930,865, by Richardson-Merrell Ltd, London W 1. For cleaning preparations; substances for laundry use; and detergents (not for use in industrial and manufacturing processes) (3)

Glowlucet, B932,755, by Juvena Produits de Beaute SA, Zurich, Switzerland. For perfumes, eau de Cologne, cosmetic preparations; dentifrices, non-medicated toilet preparations, toilet articles, soaps and essential oils and preparations for the hair (3)

Trimast, 930,706, by Pfizer Ltd, Sandwich, Kent. For pharmaceutical and veterinary preparations and substances (5)

COMING EVENTS

Sunday September 7

Federation Internationale Pharmaceutique, London. International Congress of Pharmaceutical Sciences. Until September 12. For details see p. 194.

Monday September 8

Export Services Exhibition. Olympia, London, W 14. Until September 12.

Northampton Branch, Pharmaceutical Society, Cripps Medical Centre, Northampton General Hospital, at 8 p.m. Mr C. C. Stevens (member of Council) on "Monopolies and Price Maintenance."

Tuesday September 9

Marketing Society, Cafe Royal, Regent Street, London, W 1. Luncheon meeting. Mr R. Halstead, chairman, Beecham Products Ltd and vice-president of the Society on "What Makes a Marketing Man?"

Northpack 69 (Northern Packaging Exhibition). Queens Hall, Leeds. Until September 12.

Tees-Side Branch, Pharmaceutical Society and Middlesbrough Branch, National Pharmaceutical Union, Vane Arms Hotel, Stockton-on-Tees. Consideration of resolutions for inclusion in agenda of N.P.U. Area meeting at Sunderland on October 19.

Wednesday September 10

Bolton Pharmaceutical Association, Smithills Coaching House, Smithills Dean Road, Bolton, at 1.15 p.m. Luncheon meeting.

Manchester Pharmaceutical Golfing Society, Ormskirk Golf Club. Four-ball Stableford competition for Robinson and Sons Ltd (Chesterfield) prizes.

Saturday September 13

Border Region, Pharmaceutical Society, Wearmouth Hall, School of Pharmacy, Sunderland until September 14. Postgraduate course on evaluation of clinical trial results and pharmacology of antidepressant drugs.

Sunday September 14

Romford Branch, Pharmaceutical Society. Car tour leaving Tylers Common, Upminster 1.30-2 p.m.

Advance Information

Retail Trades Education Council. A series of one-day "Managers and Trainers" courses has been arranged as follows: September: 16, Birmingham; 30, Nelson, Lancs. October: 8, Liverpool; 14, Leeds; 15, Newcastle upon Tyne; 21, Glasgow; 23, Bristol. Details from Training Development Officer, Retail Trades Education Council, 56 Russell Square, London WC 1.

MEDICAL PRESS

Impasse reached in oral contraception

Oral contraception is at an impasse where only a radically new idea will do, says the *British Medical Journal* in a leading article.

The article reviews evidence for an association between oral contraceptives and arterial or venous thrombosis and finds that the established hazard of venous thrombosis is of more importance than that of arterial thrombosis. "But so long as any healthy woman dies there is no room for complacency."

A less dangerous alternative to oestrogen-progestogen combinations must be found, it is maintained — the evidence against the oestrogenic component "cannot be ignored . . . The use of oestrogens in high dosage for relatively trivial indications such as the suppression of lactation hardly seems justified any longer." (*British Medical Journal*, August 30.)

Another anti-tumour agent

An anti-tumour agent chemically related to daunorubicin (rubidomycin) has been evaluated by workers at the National Cancer Institute, Milan, Italy, and found to be a potent growth-inhibitor.

The compound, adriamycin, was isolated in the Farmitalia Research Laboratories from a mutant *Streptomyces peuce-tius*. It has been given to 13 children and 33 adults and has induced remissions in acute lymphoblastic and chronic leukaemia and in various solid tumours.

A high percentage of side effects was produced, however, particularly ulceration of the oral mucosa, bone marrow depression and alopecia. Also regressions were shortlived and the authors conclude that adriamycin may be classified with drugs such as HN2, vincristine and daunorubicin which are indicated to induce tumour repression rather than to maintain it. (*British Medical Journal*, August 30.)

Contemporary themes

Antimicrobial drugs. Principal toxic, allergic, and other adverse effects of. *Australasian Journal of Pharmacy*, July, p. S54.

The plant kingdom and hallucinogens (part I), *Bulletin on Narcotics*, July-September, p. 3.

The spread of heroin abuse in a community. *Bulletin on Narcotics*, July-September, p. 17.

Penicillin allergy. Chemical aspects of. *Journal of Pharmaceutical Sciences*, June, p. 643.

Antibiotics. Sensitivity of *Pseudomonas aeruginosa* to: emergence of strains highly resistant to carbenicillin. *Lancet*, August 30, p. 448.

Aldosterone and sodium response to lithium administration in man. *Lancet*, August 30, p. 458.

Oral contraceptives. Malignant hypertension associated with. *Lancet*, August 30, p. 466.

Acute poisoning: organization and work-load of a treatment centre. *British Medical Journal*, August 30, p. 489.

Chlorpromazine. Effects of, in patients with hepatic disease. *British Medical Journal*, August 30, p. 497.

Adriamycin. Clinical evaluation of, a new anti-tumour antibiotic. *British Medical Journal*, August 30, p. 503.

MARKET NEWS

Bromide schedules up threepence per kg

London, September 3: Bromide schedules were raised by threepence per kg throughout, thus maintaining the general upsurge trend in pharmaceutical chemical prices noticeable in the past few months. The rising costs of production, distribution and sales are now such that they are having to be passed on to the customer.

Among crude drugs belladonna leaves and herb were slightly easier, Cherry bark and Brazilian jalap were down 1d lb and Peruvian silver-grey cochineal by 2s. Spot Canadian senega also eased slightly in line with the forward position. Turmeric business on the spot showed an advance of 15s cwt on the week. Indian celery seed maintained its firm trend the near positions being marked up 10s cwt. A tight situation has developed in spot supplies of Chinese menthol. In essential oils Lemongrass was again quoted for prompt delivery after being unobtainable for several weeks. Brazilian peppermint was 3d lb dearer for shipment. Citronella stocks are tight and some positions are now nominal.

Pharmaceutical chemicals

Acetic Acid: (12-ton lots in bulk per ton), BPC glacial £85; 98-100 per cent; £78, 80 per cent grades; technical £68; pure £74.

Acetylsalicylic acid: (Per kg) 1,000-kg 9s 2½d; 501-kg, 10s 0½d.

Bromides: Crystals (per kg).

	Under 50 kg	50 kg	250 kg
	s d	s d	s d
Potassium*	6 11	6 4	6 1½
Sodium	6 11	6 4	6 1½
Ammonium	7 10	7 3	6 11½

*Powder 4d kg more.

Borax: BP grade, 1,000-kg in paper bags, delivered; granular £57 15s, crystals £62 5s; powder £62 5s; extra fine powder £63 5s; anhydrous £71 15s; pentahydrate £61 10s.

Butobarbitone: BPC 86s per kg for less than 100-kg lots.

Ergometrine maleate: (Per g) 5 g 144s; 10 g 138s.

Gallic acid: BP 12s 6d per lb for 1-cwt lots; 5-cwt 12s 3d lb.

Glycerin: BP grade, per cwt:

	Over 25 tons	5 tons and under 25 tons	1 ton and under 5 tons	Under 1 ton
	s d	s d	s d	s d
5-cwt drums ..	245 0	247 0	250 0	256 0
2½-cwt " ..	248 0	250 0	253 0	259 0
56-lb tins	252 0	254 0	257 0	263 0
28-lb "	274 0	276 0	281 0	290 0
14-lb "	278 0	280 0	285 0	294 0

Bulk tank wagon loads from 241s to 242s 6d
Technical grade, less 5s cwt.

Hippuric acid: 10-kg lots 27s 6d kg.
Hydroquinone: 1-cwt lots 10s per lb; 1-ton 8s 6d.
Isoprenaline sulphate: 5-kg 273s kg.
Methadone hydrochloride: Subject to D.D.A. regulations 2s 6d per g for 100-g lots.
Methylphenobarbitone: BPC 78s 3d per kg for under 25-kg lots.
Oleic acid: BP £171 per ton delivered.
Opiates: Home trade prices (per kg) (subject to D.D.A. Regulations):

	1 kg and over	Under 1 kg
	s d	s d
Codeine		
alkaloid	2,225 0	2,260 0
hydrochloride	1,957 0	1,992 0
phosphate	1,709 0	1,744 0
sulphate	1,957 0	1,992 0
Morphine		
acetate	2,046 0	2,081 0
alkaloid	2,469 0	2,504 0
hydrochloride	2,063 0	2,098 0
sulphate	2,063 0	2,098 0
tartrate	2,416 0	2,451 0
Ethylmorphine		
alkaloid	2,540 0	2,575 0
hydrochloride	2,204 0	2,239 0
Diamorphine		
alkaloid	2,417 0	2,452 0
hydrochloride	2,222 0	2,257 0

Paraffins: (In 6-drum lots, per ton) Liquid BP £114 7s 6d; light, £96 5s. Technical white oils; heavy, £101 5s.; light £87 15s. Drums charged and returnable. Soft: white £110-£131 tons and yellow, £79-£107 5s. All in non-returnable drums delivered.

Pethidine hydrochloride: Subject to D.D.A. regulations, 5-kg lots are at 300s kg.

Phenobarbitone: 50-kg lots 58s 9d per kg; sodium 68s 9d.

Pholcodine: 8-oz lots 91s 6d per oz (3,227s per kg).

Phosphoric acid: BP (s.g. 1.750); 10-drum lots 156s 10d per cwt; 54-kg lots in bottles 4s 9d per kg.

Phthalylsulphathiazole: 5-kg lots 32s 6d per kg; 50-kg 31s 6d.

Pyrogalllic acid: 1-cwt photographic crystals 32s 3d per lb.

Salicylic acid: 250-kg 7s 3d kg.

Santonin: 5-kg lots 374s kg.

Succinylsulphathiazole: 5-kg lots, 46s per kg; 50-kg 45s kg.

Sulphacetamide: 50-kg lots, sodium 34s 6d kg.

Sulphadiazine: 50-kg lots 46s 8d kg.

Sulphadimidine: 50-kg lots are 33s 9d kg.

Sulphaguanidine: 100-kg lots 19s 6d kg.

Sulphamerazine: In 50-kg lots 37s 6d per kg.

Sulphamethizole: BP under 50-kg 85s kg.

Sulphanilamide: 50-kg lots 13s 1d kg.

Sulphapyridine: 6-kg lots, 120s per kg.

Sulphathiazole: 100-kg 39s per kg; 50-kg 40s.

Tannic acid: BP 5-cwt lots, fluffy 11s 3d per lb; powder 11s.

Tartaric acid: 1,000-kg, in bags, delivered £368 10s. Drums plus 10s.

Crude drugs*

Agar: Kobe No. 1, 18s 6d lb, cif; European powder 16s delivered.

Aloes: (per cwt) Cape primes 290s spot, 275s cif; Curacao 640s spot; shipment nominal.

Belladonna: Leaves 3s 6d lb spot, 3s 4d, cif; herb 1s 10d spot, 1s 9d, cif; root 1s 11d spot; 1s 10d, cif.

Cherry bark: Thin natural 2s 11d lb spot; 2s 10, cif.

Cinnamon: Seychelles bark 430s cwt spot; 410s, cif. Ceylon quills (cif), four 0's 7s 4d lb; seconds 5s 8d.

Cochineal: (Per lb). Canary Isles silver-grey 37s 6d, cif; black brilliant 41s 6d, cif. Peruvian silver-grey 33s, spot 31s, cif.

Cocillana: Bark 3s 3d lb spot.

Ginger: (cwt) Nigerian split 430s; peeled 400s; Jamaican No. 2 710s spot.

Jalap: Brazilian 2s 1d lb spot; 1s 11d, cif.

Menthol: (lb) Chinese 37s 6d spot nominal; October-November shipment 34s 3d, cif. Brazilian

Nutmegs: (Per lb, cif). Grenada 80's 6s; 110's 5s 10d; defectives 4s 3d; sound assorted 5s 4d.

Pepper: Sarawak white 3s 9d spot, 3s 4½d, cif, black 2s 5½d, cif.

Seeds: (Per cwt) Chinese star unselected Anise 185s; Spanish green 260s. Caraway: Dutch 170s on spot. Celery: Indian afloat 610s, cif. Coriander: Moroccan 110s spot; 96s, cif. Cumin: Chinese 175s; Iranian 185s, both duty paid. Dill: Indian 140s, cif. Fennel: Chinese 115s duty paid; forward 92s 6d, cif. (50-kg). Fenugreek: Moroccan 75s duty paid; 60s, cif. Mustard: English 55s. to 95s a, to quality.

Senega: Canadian 29s 6d; shipment (new crop) 2s, cif. Japanese 20s in bond.

Turmeric: Madras finger 345s cwt spot; September-October 330s, cif.

Essential and expressed oils*

Almond: Imported 5s lb spot.

Amber: Rectified spot, 2s 6d per lb.

Anise: Chinese 15s 6d lb spot, 14s 9d, cif.

Bay: 43s lb spot; 41s, cif.

Bergamot: Spot from 65s to 75s lb.

Birch tar: Rectified 16s lb spot.

Bois de rose: Brazilian 40s kg spot; 39s 6d, cif.

Buchu: Imported 1,200s lb.

Cade: Spanish 2s 9d lb, drum lots.

Cajuput: Spot from 10s to 12s lb.

Camphor, white: Spot 7s 9d kg, duty paid; 7s, cif.

Cananga: Java, 24s lb.

Caraway: Spot 55s lb; English 80s.

Cardamom: Indian 525s per lb, English-distilled 1,930s kg.

Cassia: Spot 20s-25s per lb for 80-85 per cent; 19s, cif.

Castor: BP £200 ton, naked ex mill.

Cedar: Leaf 60s lb; wood African 7s 6d; American 13s 6d.

Celery: Resellers of Indian at 500s lb.

Cinnamon: English distilled 52s oz; Ceylon leaf 15s lb; Seychelles leaf rectified, 19s.

Citronella: Ceylon 7s per lb spot; 6s, cif; Formosan no offers; Chinese 5s 9d in bond; 5s 10d, cif, nominal.

Clove: (lb) Madagascar leaf, 12s 9d in bond; 12s 6d, cif for September shipment. English distilled bud 66s.

Cod liver: BP in 45-gal drums 12s per gal plus 30s deposit on drums. Veterinary from 9s 10d to 10s 9d per gal 25-stone lots, delivered.

Coriander: From 45s per lb spot.

Cubeb: English distilled 100s. per lb

Cumin: English distilled oil from 120s per lb imported from 100s.

Dill: BP 52s 6d lb spot.

Eucalyptus: Chinese 80-85 per cent 12s kg spot; 10s 9d, cif.

Fennel: Spanish sweet 13s 6d lb.

Geranium: Bourbon 110s lb.

Ginger: (per lb) Indian 365s; Chinese 80s nominal; Jamaican 175s.

Juniper berry: English distilled 270s lb; imported 65s.

Lavandin: French 30-32% 24s lb.

Lavender: French 40-42%, 50s lb.

Lavender spike: Spanish 24s lb.

Lemon: Spot 35s to 55s lb as to quality; Sicilian for shipment 50s-60s, cif, shipment from 50s, c and f.

Lemongrass: Spot 58s 6d kg; August-September shipment 51s, cif.

Lime: West Indian distilled from 70s per lb.

Nutmeg: East Indian 45s lb; West Indian 80s; English distilled 100s.

Olive: Spot, £345-£350 per ton ex wharf duty paid. Shipment; Spanish £275-£280 metric ton fob; Moroccan £265-£270, c and f London.

Orange: Florida sweet from 6s per lb.

Palmarosa: 205s kg spot; 195s, cif.

Patchouli: Spot 25s. to 26s per lb duty paid; shipment 21s to 23s 6d, cif.

Pennyroyal: To arrive 18s 6d lb.

Peppermint: (Per lb) *Arvensis*: Chinese 10s spot; 10s, cif. Brazilian 10s 6d spot; shipment 10s 3d, cif.

American *Piperita* 40s to 50s, cif, new crop. Italian 95s.

Petigrain: Paraguay for shipment 18s lb, cif; spot 19s.

Pine: *Pumilionis* 15s 6d to 17s 6d per lb; *sylvestris* 11s; *abietis* 20s.

Rosemary: Spanish 12s lb, spot.

Sage: Spanish 19s 6d per lb.

Sandalwood: Mysore spot 285s kg, East Indian for shipment 300s, cif.

Spearmint: American 52s lb. Chinese spot 61s 6d per kg; shipment 59s, cif.

Vetivert: Bourbon, spot, 100s per lb.

New York market

New York, September 2. Dealers reported steadiness in the market for Brazilian menthol with prices holding at about \$4.10 per lb. A serious shortage of juniper berry oil was noted; dealers' stocks were reported non-existent and prices could not be quoted.

*Prices obtained by importers or manufacturers ex warehouse for bulk quantities

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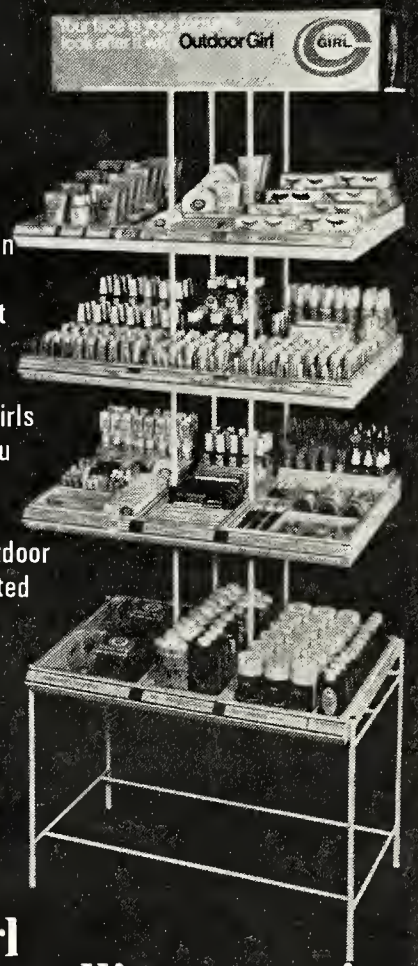
WHY tie up capital in stock that collects the dust and costs YOU money to finance

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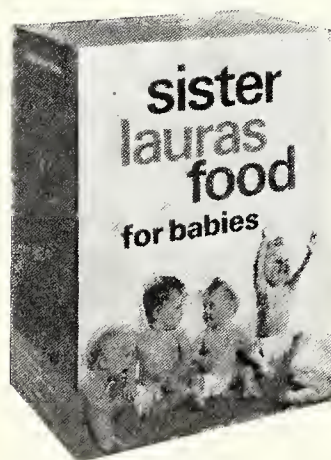


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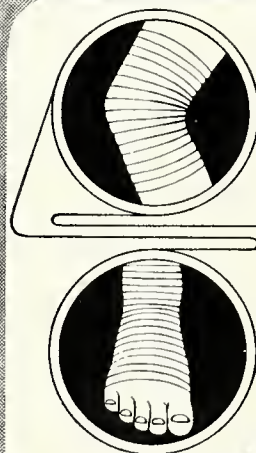
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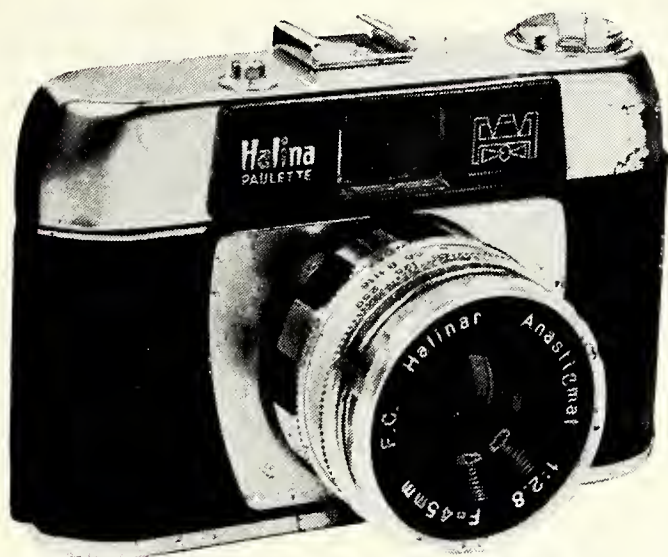
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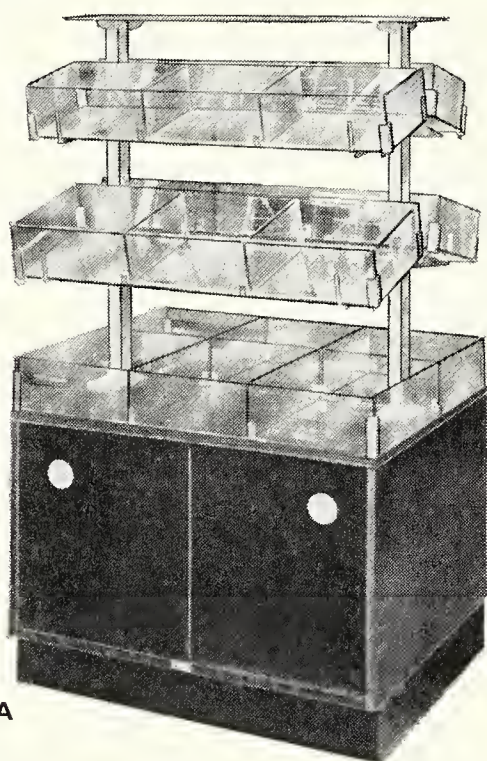
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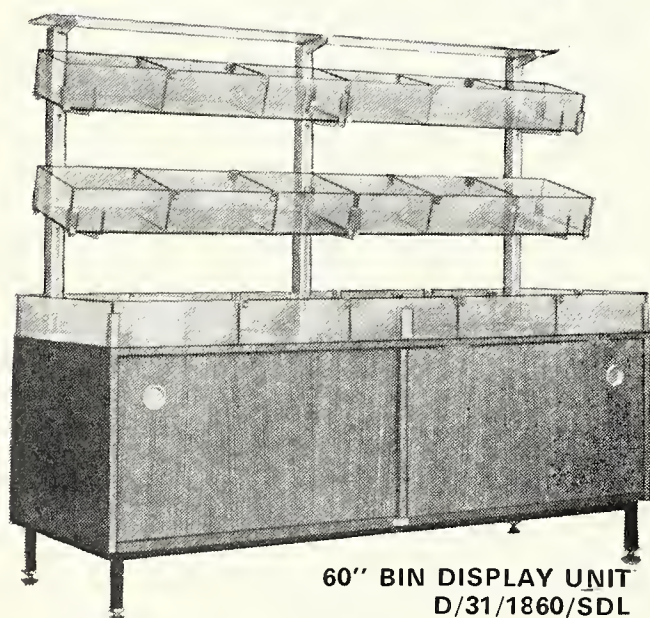
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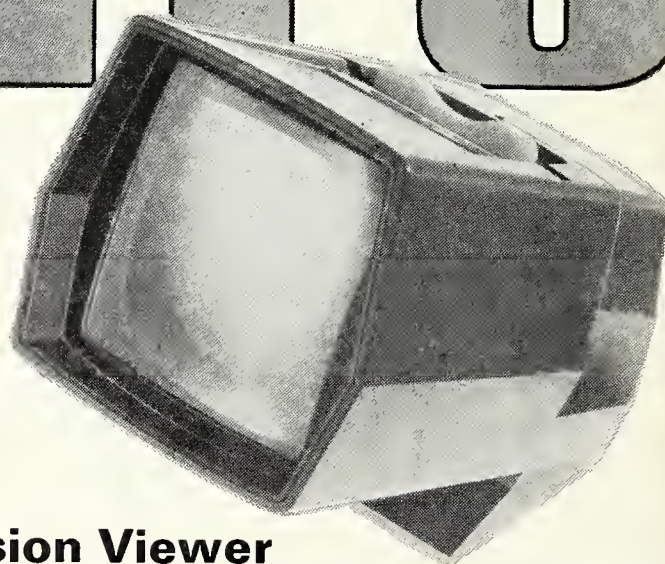
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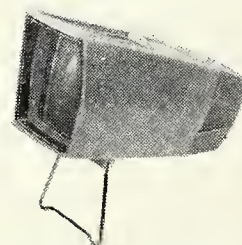
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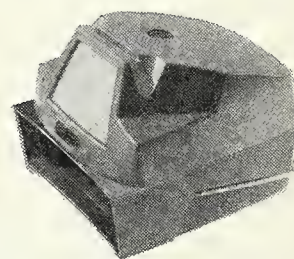
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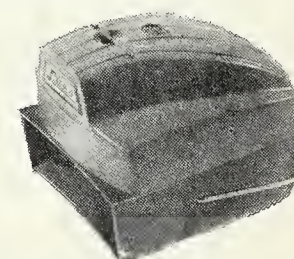
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Excellent opportunity to gain
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Situations Vacant Industry Cont.

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816068	PRESENCE	Perfumes, non-medicated toilet preparations and cosmetics, theatrical make-up soaps, essential oils, lotions for the hair, and dentifrices.

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PRESENCE	Perfumes and toilet waters.
FLATTERIE	Perfumes and toilet waters.
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